Community as a Context for Learning

Northwest Center for Sustainable Resources
Education for a Sustainable Future

Chemeketa Community College
Salem, Oregon
DUE #0101498

This project was supported in part by the **National Science Foundation**. Opinions expressed are those of those of the authors and not necessarily those of the foundation.

CHEMEKETA COMMUNITY COLLEGE

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ACKNOWLEDGEMENTS

This manual is a cooperative effort involving major contributions of lessons, resources, and ideas from three primary sources. Most of the manual consists of the work and efforts of these individuals and the organizations they are affiliated with. I would like to thank all of them for their work on this project and for arranging and coordinating my visits to their sites. This manual is truly a product of their efforts.

Joan Chadde is the education program coordinator for the Western Upper Peninsula Center for Science, Mathematics, and Environmental Education (www.wupcenter.mtu.edu) at Michigan Technological University (www.mtu.edu) in Houghton, Michigan. Joan, together with **Linda Rulison** and **Ruth Ann Smith** of Hancock Middle School in Hancock, MI, and **Jean Dunstan** of Stanton Township Schools, wrote the *Looks Count!* interdisciplinary curriculum unit from which seven lessons were adapted for use in this manual. Development of *Looks Count!* was funded by the Dunn Foundation.

Connie Knapp, based in Steamboat Springs, Colorado is the Program Manager for The Orton Family Foundation's (www.orton.org) *Community Mapping Program*. Connie organized and coordinated numerous individuals and contributions for this manual, which incorporates two other Foundation programs, *Community Video* (**Paul Sachs**, Program Manager) and *CommunityViz* (**Doug Walker**, Program Director). The *Community Mapping* tools and content selected for inclusion in this manual complement the Foundation's newly published book describing the *Community Mapping Program* model. An original *Community Mapping* project case study was compiled for this manual by **Barbara Ann Richman**. (The Orton Family Foundation, C. Knapp, Principal Author. November 2003. Making Community Connection: The Orton Family Foundation, Community Mapping Program. ESRI Press. Redlands, CA)

Rachel Felice, Educator for the Columbia Slough Watershed Council, and **Sybil Kelley**, Doctoral Fellow at the Center for Science Education (CSE) at Portland State University, are both based in Portland, Oregon. Eleven lessons were selected from the *Community as Curriculum* publication that Rachel had written for the Science Education's Urban Ecosystem Project in Portland, Oregon. In addition, Rachel and other CSE staff developed a series of activities designed to lead students through the process of developing, implementing, analyzing and reporting a survey as part of a community-

based education project. This work was made possible through the 21st Century Community Learning Centers Initiative.

Finally, in the Evaluation and Assessment section you will find a tool useful for assessment, evaluation and teacher development. The Community-Based Education Development continuum (CBED) was developed by Linda Hill and others at CSE as part of the Urban Ecosystem Project. Additional supporting materials can be provided by CSE upon request (see Appendix).

I visited and worked with each group to select out and assist in editing parts of their previous publications that fit the theme of this manual. I then tied together the various contributions from these three entries into a coherent and useful tool for educators. I would like to thank them for their contributions and I hope I have done justice to their work.

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INTRODUCTION

This is the third manual in a series on community-based education. Each previous manual attempted to fill a specific niche in assisting educators establish this type of approach to their efforts.

The first manual, *Educator's Guide to Program Development in Natural Resources: Education as a Community Resource* described a process that educators could follow to connect schools to their communities. It explained the philosophical basis for community-based education and provided examples of programs that utilized this approach in an effort to help educators go beyond isolated projects and instead institute systematic change to the way they teach. The community-based approach is to engage students in the public domain, involve them in the information gathering that is needed, and then provide feedback to enhance the community's policy and decision-making capacity. However, teachers who embraced the philosophy often struggled with how to implement the community-based approach into their classroom. What would their lesson plans look like for the week? The manual provided a philosophical foundation but left the details to be worked out by the educators. For some, more support was needed.

The second manual, *Community-based Natural Resource Activities for Biology* offered specific community-based lessons and activities that educators could use in a typical biology course to get students out in the community. It provided specific lessons for the information-gathering phase of their community-based efforts and addressed concerns regarding content and content standards as students participate in authentic educational opportunities in the community. The second manual provided the support and specificity of science content that teachers were looking for. However, some educators were still struggling with entering the public domain to identify the community and it's needs. Some were still at the starting line eager to go, but unsure how to take the first step of connecting their students with the community.

This third manual, *Community as a Context for Learning*, provides lessons, tools, resources, and forms that will offer yet more guidance to assist educators and students in entering the public domain and connecting to their community for the first time. It is hoped that this manual will also provide needed support and valuable resources for those already out there in the community conducting community-based projects. In fact, many educators and students currently involved in outstanding community-based programs and projects often lack a thorough knowledge or understanding of what their community is. There is often a gap between the students' participation in a community project and their understanding of the community context it is occurring within. We hope this manual can assist educators in putting the "community" into community-based programs.

This third manual is divided into four sections: Exploring Your Community, Needs and Opportunities

Assessment, Designing and Conducting a Community Project, and Community-based Project Examples. The first section includes lessons, tools, resources, and forms that will assist and support those educators interested in having students better understand the community where they live and work. This community discovery, exploration, and examination phase are all critical to the educators' and students' knowledge and understanding of their community. We hope the community-based projects that educators and students select will be better understood in the community context they fall within.

The second section of this manual provides resources for educators on conducting needs and opportunities assessments in a community in preparation for project selection. This section could just as well be folded into the first section on community exploration since part of that process can involve surveys and other tools to assess community needs and opportunities. However, it is separated out to demonstrate the importance of determining the needs and opportunities in a community before a project is selected. In this way students are assured of serving as true and needed resources for the community.

After learning about the community around you and conducting a needs and opportunities assessment, the third section of this manual provides a process for selecting and conducting an authentic community-based project. The process involves organizing your school and community, planning the project, conducting the project, sharing with the community, and evaluating and assessing the students and the project. This may provide you with new ways to organize and conduct your work efforts. In particular, the subsection on evaluation and assessment could be useful for many educators. Evaluating students involved in these types of projects can be difficult. There is more to assess than a final product that goes out to the community. In addition very few community-based efforts have an evaluative component. How do we measure or know if our project is a success? We hope to provide you with tools to evaluate both students and projects.

The fourth section provides a detailed case study that follows the process that is outlined in this manual. In addition, several summaries of successful community-based projects are included to both inspire and guide educators in designing their own projects.

There is one other suggestion I would like you to consider as you carry out these exciting community-based projects - the development of community within the classroom. This can occur by chance as a class works together on a community-based project, or you can make it a more intentional experience. There are many books and other resources available to educators in developing a sense of community in the class, including adventure or challenge activities, team-building activities, and group problem solving experiences can all develop that. This is an area beyond the scope of this manual but I would encourage you to explore this arena on your own.

I hope you find this manual helpful and useful in your efforts to facilitate the participation of young citizens in their community. They are indeed our future.

EXPLORING YOUR COMMUNITY

INTRODUCTION - Lessons

As young student-citizens engage in authentic educational experiences through community-based projects it is important that they first understand the community around them. They should be able to place the community project within an understanding of what that community is. If we expect our students to be contributing members of the community (found in almost every educational mission statement in the country) then they will need to have opportunities to discover and participate as young citizens.

In this first section of the manual you will find two sets of lessons aimed at having students discover their community. The first set of lessons are edited selections from *Community as a Curriculum* a curriculum developed by staff at the Portland State University (PSU) Center for Science Education (CSE). These are a collection of classroom activities intended as a springboard for beginning the process of exploring the community in which a project will take place. The goal of this curriculum is to empower teachers to identify student preconceptions about their community, to explore the assets within the community and find opportunities for implementing change. If you are interested in acquiring the complete set of original lessons, contact CSE with the information provided in the appendix of this manual.

The second set of lessons are edited selections from the *Looks Count! Community Planning Natural Resource Protection and the Visual Landscape* curriculum from a collaborative project at the Western Upper Peninsula Center for Science, Mathematics and Environmental Education at Michigan Technological University. In these lessons students will be able to: a) identify the character of their community and what makes their community appealing, b) describe how the visual environment impacts the economic, environmental, and aesthetic qualities of their community, c) design, conduct and tabulate public surveys to determine community attitudes, and d) become familiar with how community planning tools can be used to enhance their community's appearance and preserve the "character" of their community.

Lesson 1 - COMMUNITY BRAINSTORMING

Objectives:

Students will be able to:

1. Demonstrate the ability to brainstorm effectively.
2. Define the term "community."
3. Employ group skills to gather ideas.

Time needed: One 45-minute class

Materials: Blank butcher paper and two markers per group of four

Procedure

In this activity, students will work in small groups to discuss and record their esponses to the following prompts and questions. It is important to present this activity to the students as a brainstorming session; there are no "right" or "wrong" answers. The objective is for the students to talk about and record their first ideas about the communities to which they belong.

Ask students to divide into groups of four and give each group a large piece of blank butcher paper (or blank 11" x 17" paper) and two markers. Focus the class attention by delivering the discussion prompts and then allow the students to talk about and record their answers in their small groups. The primary prompt for this activity is:

What is your community?

After the students have had time to provide as many ideas as they can, some ideas for additional prompts might include:

As a community, who are we?

- How are the community members similar and/or different?
- How are they connected?
- What are the habits of the citizens?
- Are all of our school's students from the same community?

- When you think of your community, do you think of your family, friends, classmates, things you do or places around you?

After students talk about their preconceptions of their community, they can apply this information to a discussion of the broader concept:

What defines a community?

Post these papers on the wall and as a class use their contents to create a working definition for the concept of "community." Students can decide if they believe a person's community to be based on the location he/she lives, works and plays, the things that he/she does, cultural background or other characteristics. Putting this definition in a visible place, the students can use it as a reference point when discovering the resources that make their community unique.

Lesson 2 - MENTAL MAPPING

Objectives:

Students will be able to:

1. Visually represent a community.
2. Identify and map community resources within a given area.

Time needed: One 45-minute class

Materials: Large paper (11 x 17) for each student

Procedure

This activity will be enriched if it is presented to the students at least one day before using it. Ask students to be highly aware of sights, sounds, smells and interactions they encounter on the way home and to school, as they will be recording these items the next day.

Ask students to close their eyes and envision leaving their house and walking, riding or driving to school. Students should record the route they follow and the community resources (things, people and places) they pass en route. Provide students with large pieces of paper (11x17 or 11x14 work well) and ask them to draw an aerial map of their daily route. To allow for a more extensive map, encourage students to use symbols and a legend to identify key points (e.g., X= school, O= tree, += store) instead of elaborate drawings. Discuss with the class the cardinal directions in relation to the school (e.g., the front door of the building faces North) so that students may use this information in their maps as well.

After students finish drawing their maps, discuss the activity and create a class list of all of the community resources on the students' maps. Some ideas for discussion include:

- How did you select what resources to put on your map?
- What resources do we use that are not on the class list of resources? Why are they not there?

- If the class did the "Community Brainstorming" activity in Lesson 1, compare the two lists. Which is more extensive? Why?

- Ask students to pair up and exchange maps with their partner. Can the students use the partner's map to follow his/her route?

This activity can be used as a baseline assessment of student awareness of their community. Allow the students to create another mental map after completing a project in the community and compare it to the first one. Has the students' community awareness changed? What new community resources and characteristics are now included?

Lesson 3 - COMMUNITY PROFILING

Objectives:

Students will be able to:

1. Identify preconceptions.
2. Identify specific characteristics of a community.
3. Use various strategies to gather and record data.
4. Use various strategies to organize and explain data.
5. Compare preconceptions to current beliefs, based on new information.

Time needed: Two or three 45-min classes

Materials: None

Procedure

This activity allows the teacher and his/her students to review their preconceptions of their community and compare these perceptions with actual data about the community. Through the gathering of information, students will produce a community profile to describe the place they live. Students can create a vibrant, visual display of their profile to share with their school and other community members. First, the class should make a list of six questions they would like to answer about their community. Examples might include:

- What is the population of your community? Describe the demographic information of the people, such as their cultural background, age, socio-economic standing, education and gender.
- Describe the geographic characteristics of your community. How do nearby mountains, lakes, plains, rivers, etc. influence the community?
- What is the history of your community? How was it named?
- Does your community produce any goods? What industries, corporations or groups employ many of your neighbors?
- What types of recreation are important to your community?

- What do you like about your community? What do other people (tourists, university students, other communities) like about it?

- Is your community urban, rural or suburban? Is it part of a larger group?

After the students decide what information they want, they should divide into groups of six to begin collecting it, one question per group member. Depending on the total number of students, each question may have a few students who focus on it. To find these data, students can consult materials from regional government offices, the local library and on the Internet. Local demographic information can be obtained from the Census Bureau or a local Historical Society. Reading the city charter or contacting local leaders, political representatives and long-time residents could also provide answers.

With the entire class, combine each group's information to create a community profile, and display it in a creative way. Using pictures, graphs or text, a visual or oral presentation of the community profile could be formed. As students compare this profile to earlier preconceptions of their community, they should determine if they would now describe their community in different ways. In addition, students may now be able to describe some of the community's assets, which are useful or valuable characteristics of a place.

Lesson 4 - COMMUNITY INVESTIGATION

Objectives:

Students will be able to:

1. Access and utilize a variety of non-traditional reference materials and local resources.
2. Contact community members using effective communication skills.

Time needed: One 45-minute class

Materials: Community maps, phone books, and various publications

Procedure

The main goals of this activity are to familiarize students and teacher with facets of the community and to empower students to use different resource materials to discover these aspects. As a facilitator, the teacher should provide students with an adequate supply of maps, phone books and other publications of the community and surrounding area. Regional governments, tourist offices, the Internet, public transportation offices, auto clubs, neighborhood associations and public libraries are good places to collect a class set of maps and resources about your community. It may be beneficial to discuss/review topics such as how to use a book's index or how to orient oneself on a map before beginning the investigation.

The class and teacher then decide on questions for students to answer individually or in small groups. Splitting the class into teams and presenting this activity as a scavenger hunt can build class enthusiasm for the challenge. Samples, (*Community Scavenger Hunt*) with space to add questions specific to your community, and (*How Well Do You Know Your Place?*) follows.

After students are done answering questions, discuss the activity and answers with the class. Some possible prompts include:

- Did the whole class get the same answer for any one question?
- Which resource was most helpful?
- What new things did we learn about our community?

- What was the team strategy of the group that finished the investigation first?

A possible extension for this lesson includes presenting the activity to the class ahead of time and allowing students to contact community organizations to find phone books, maps and other resources to use.

Student Handout 4-1

Community Scavenger Hunt

Your mission is to use the resources available in your classroom to find answers to the following questions. Think of the people, places and things in your community when you answer the questions. Many of the questions have more than one answer possible . Add two questions you are interested in finding out about your community. Good luck.

Name two places where students can play outdoor sports:

1. _____

2. _____

What is the address of city hall?

3. _____

List three natural areas in the community (lakes, parks, forests, etc.)

4. _____

5. _____

6. _____

Where can you find several new houses being built?

7. _____

What is the address of the closest recycling center?

8. _____

Name the location of a large area covered with asphalt.

9. _____

Where does your wastewater go when it leaves your home?

10. _____

Class question:

11. _____

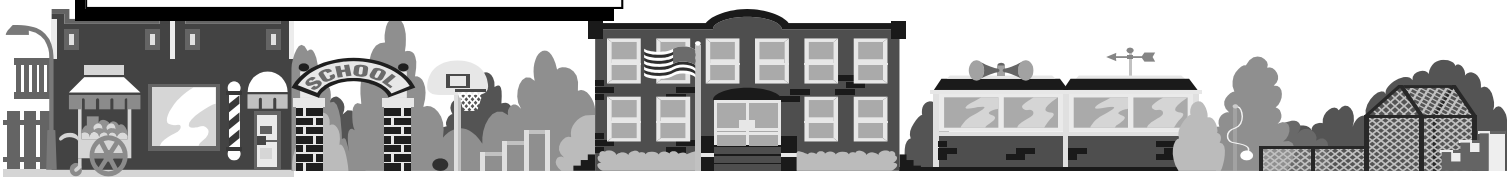
_____

_____

12. _____

_____

Student Handout 4-2



How Well Do You Know Your Place?

Want to get to know your home better? Then this is the quiz for you. If you can answer all these questions, you deserve a prize for awareness of your local environment and community. And if you are not sure, some sources of information are suggested below each set of questions.

BUILDINGS
What building materials commonly used in your region are from local sources?

What color are the bricks and stone that are quarried in your region?

Sources of information: Local builders' association

ENERGY
What portion of your electricity is generated using nuclear power? Hydroelectricity? Fossil fuels? Wind? Solar?

Sources of information: Local utility or fuel supplier

FOOD
How long is the growing season in your area?

Where did the food on your dinner plate last night come from? How far is this from where you live?

What are your local sources of organic food?

Sources of information: Food coop, local grocer, conservation district or Natural Resources Conservation Service office

COMMUNITY
What are some important local issues where you live?

Name the decision-making body in your community?

List one or more "contributions to the common good of the community" in the past year?

Can you name an organization in your community that helps those in need by providing food, comfort, transportation, or companionship?

Sources of information: Local city/town offices, newspaper, phone book

WASTE
Where does your garbage go?

What materials can be recycled in your community?

Where does hazardous waste in your community go?

Sources of information: Municipal public works offices, Department of Natural Resources offices.

WILDLIFE
Can you name 25 species of birds, mammals, reptiles, amphibians, trees, and flowers in your area?

Which birds stay in your area year-round?

Sources of information: Department of Natural Resources offices, local Audubon chapter, sportsmens' clubs

LOCAL HISTORY
Which Native American tribe lived in your area prior to Europeans?

Why was your town or city established? Why was the location important?

What was on the land where you live one hundred years ago?

When did Europeans first come to the area and why?

Sources of information: Public libraries, native people, older residents, historical museum or archives

WATER
In which watershed do you live?

When you turn on the tap, where does the water come from-a lake, river, groundwater?

When you flush the toilet, where does the water go?

Sources of information: Conservation district or Natural Resources Conservation Service office, Municipal public works offices, EPA Surf Your Watershed website http://www.epa.gov/surf/

POLLUTION & THE ENVIRONMENT
What are the major sources of industrial pollution?

What organizations in your area are working to protect and enhance the environment?

What state and federal agencies regulate pollution of air, water and land in your community?

Sources of information: Department of Natural Resources offices, phone book, public library, Internet

Written by Karen Davies, and published in Alternatives Journal 28:3,
Summer 2002 P 39

Lesson 5 - COMMUNITY ASSETS MAPPING

Objectives:

Students will be able to:

1. Produce a community map.
2. Articulate relationships between community resources.
3. Demonstrate careful data collection techniques.

Time needed: Three 45-minute class periods

Materials: Large butcher paper for wall map, community maps

Procedure

This activity can be used as an indicator of student awareness of their community. Students will create or obtain a large map of the community to put on the classroom wall or another visible location. Students can contact regional government offices, neighborhood groups or local tourist offices to seek out map donations. This map should not only include streets and schools but natural boundaries, commercial sites, greenspaces and demographic information; it might be easiest to make something that resembles a diagram more than a traditional map (*see following examples*). As students learn of new resources in their community, add them to or label them on the large map.

Relationships that the students discover between different community resources should be noted on the map as well. Students can use arrows and description boxes to illustrate the web of connections between the economic, environmental and social assets within the community.

Keep a tally of the number and nature of the entries added to the map each day/week/month. Some discussion questions may include:

- How did you discover the resources put on your map?

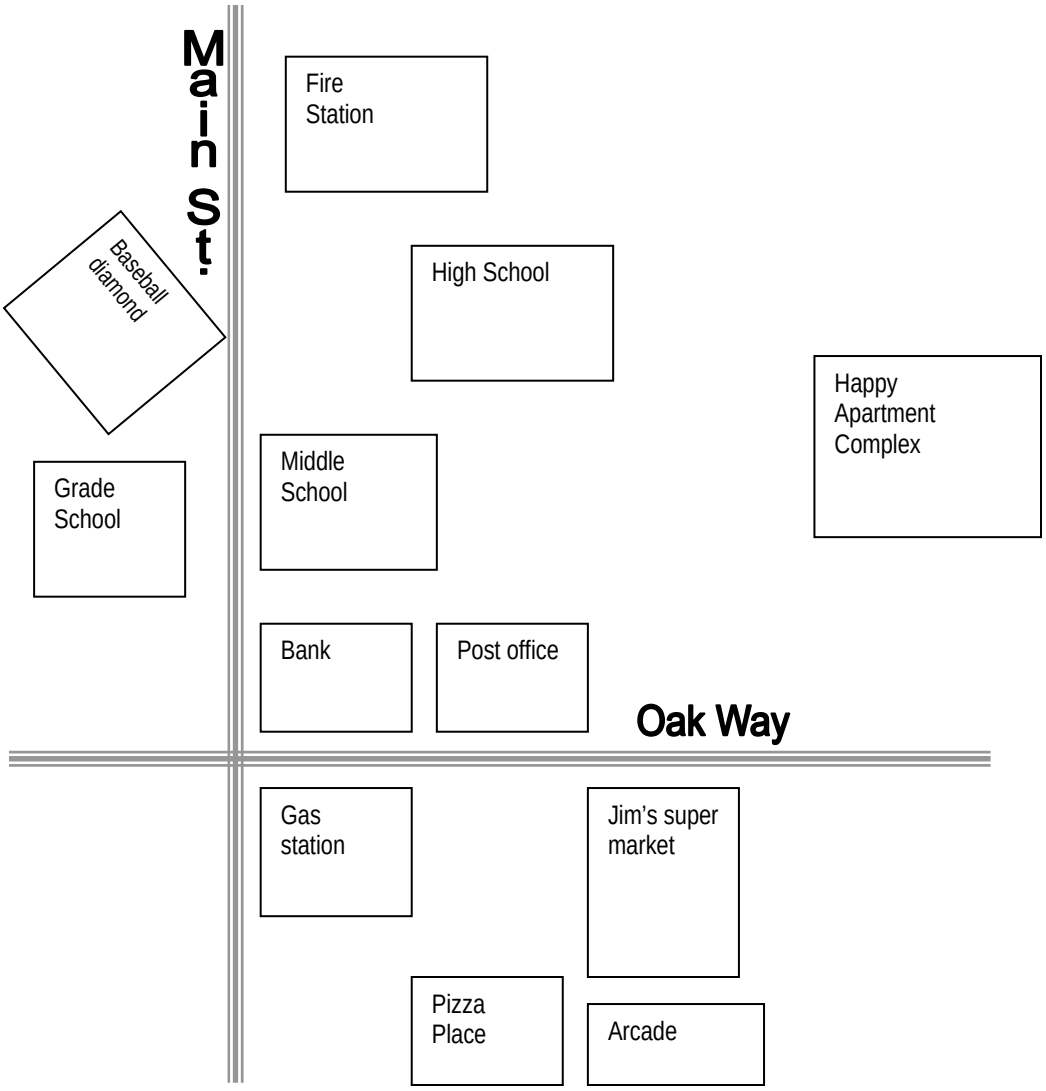
- Is there a map in the community that looks like the one that we have created? Why or why not?

- As time has gone on, does the class fill in more blanks on community assets or add more of the relationships between community assets?

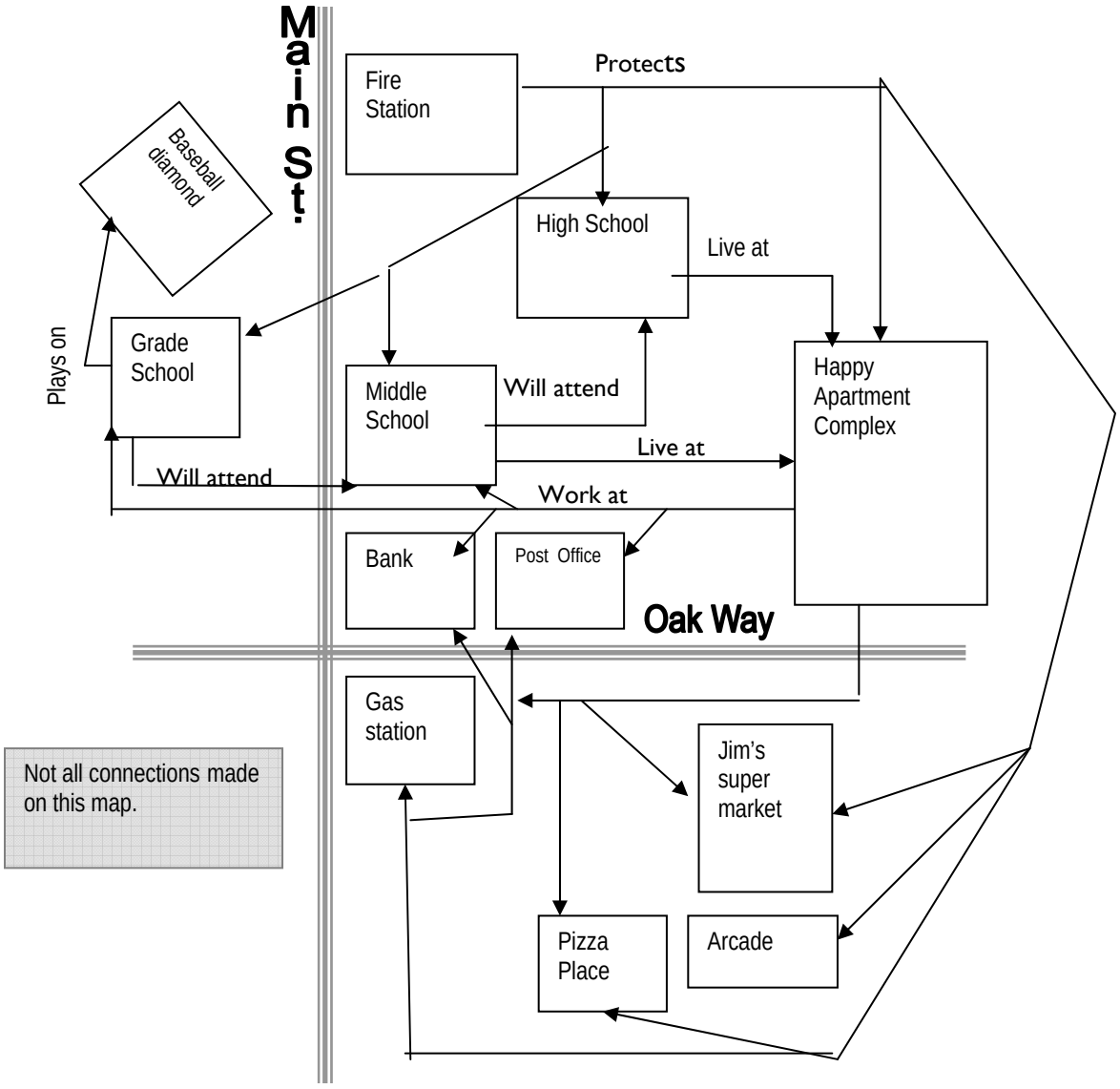
Another way of documenting community assets is through photography. Using disposable cameras, each student can each be given 24 hours to shoot pictures of what she/he sees in the community, including physical assets and the habits and behaviors of the people that live there. Local retailers might be willing to help defray the cost of film and processing; a local publication might be able to use some of the pictures produced. Together, these pictures will create a collage of what life is like in your community.

See example on next two pages

Step 1: Make a general layout of the main streets and assets from a bird's eye view.



Step 2: Draw arrows showing how places are connected



Lesson 6 - GOVERNANCE IN THE COMMUNITY

Objectives:

Students will be able to:

1. Describe the structure of local government particularly as it applies to natural resources.
2. Identify federal, state, county, and city agencies and organizations that are involved in the use and management of natural resources.

Time needed: Three 45-minute class periods

Materials: Phone books, Internet

Procedure

Understanding how local governments are organized is important to understanding how communities function. City agencies and citizen advisory groups have a major impact on determining what occurs throughout the local community. Knowing these entities and the role(s) they play will help students understand the larger picture of policy and decision-making that occurs in their neighborhood. In addition, it provides a great pool of resources for students to contact for information or to form partnerships for future community-based projects. This can help provide the community context or umbrella needed within which they carry out their student-citizen participation.

There are numerous activities students can engage in to document the governmental organization in their community. Depending on the part of the country and the community they live, these organizations will vary with names such as neighborhoods, villages, towns, or boroughs. In addition to describing the city governmental organization students can also examine the organizational structure of county, state and federal agencies and organizations that impact their community. Focusing on those agencies and organizations that have a particular role with the environment or with natural resource use and management will help students narrow their efforts and make it a more manageable project.

The following two activities are examples of what could be undertaken by students to describe how their local government is organized. Teachers in various parts of the country will have different structures in their communities and can modify these lessons to fit their needs. Contacting someone in city government will be a critical piece in organizing and focusing your efforts and to reduce some of the frustration students may feel as they begin to explore the community in this way.

Part I:
What is the Structure of Your Local Government?

Teachers can use all or part of the following outline and information to guide students in describing their local government. Students can be given an assignment to collect the information on the various parts of this outline or develop their own outline to describe their local government.

What is Local Government?

- Local government is generally defined as town, village, city, or county government.
- Members of the local government can be divided into elected officials, employees, and appointed officials.
- Local government is divided into various departments, boards, and commissions. County governance has boards and agencies that often receive some funding from local governments.
- The structure of local government varies due to who is "in charge." For example, an elected mayor leads some cities. Others have a "strong city manager" who is hired by the elected city council to run the day-to-day operations of the city.

Elected officials (describe their primary duties and responsibilities)

- Mayor
- City Council
- County Boards
- Other

City departments (with land use and environmental responsibilities)

- Public Works
- Parks and Recreation
- Planning and Development
- General Services
- Other

Appointed boards and commissions (with land use and environmental responsibilities)

- Planning
- Parks
- Other

City Documents (that affect the use and management of natural resources)

- Comprehensive plan
- Adopted city code
- Other

This outline serves only as an example template for investigating the organizational structure of a local community. Each community has different governance configurations so teachers will need to modify this outline to fit the community they examine.

The student products for this lesson can be varied. However, teachers should have the students deliver their work to the community in some meaningful way. This may be in the form of a poster or a PowerPoint presentation to interested parent or community groups, flow charts or brochures handed out in the neighborhood, or a booklet to be used by community groups and organizations that need to access city government.

Part II: Resource Directory

This activity is similar to the previous lesson but has a greater focus on gathering contact information and more detailed descriptions on city, county, state, federal, and local organizations, business, and industries that are involved or interested in the environment and the use and management of natural resources. The final result of this is for students to produce a directory that can be used by the class for future projects and other interested groups involved in conducting community projects or needing information on specific issues.

The information that students may collect is listed below. Teachers can edit or add other pieces of information they would like the students to collect as well. Divide the students into groups and have them use the phone book, Internet, and other available resources to find out the necessary information.

- Name of agency, organization or business
- Description of the mission or purpose of the group
- Examples of past or ongoing efforts in the community
- Contact information
    - Address
    - Phone
    - Web Site

Student Handout 6

Community Agencies and Organizations

The following is a partial list of city, county, state, and federal agencies along with some example organizations, businesses, and industries that may have an impact on how natural resources are used and managed in you community. Collect the information for the agencies and organizations listed below.

Community Agencies and Organizations		
<u>City Agencies</u> Public Works Parks and Recreation Planning General Services	<u>County Agencies</u> Public Works Parks Planning Development Soil/Water Conservation District	<u>State Agencies</u> Water Resources Agriculture Parks Forestry Fish and Wildlife State Lands Dept. of Environmental Quality
<u>Federal Agencies</u> Corp of Engineers Agriculture National Parks Natural Resource Conservation Service Forest Service Environmental Protection Agency Fish and Wildlife Service Bureau of Land Management	<u>Organizations</u> Audubon Society Nature Conservancy Native Plant Society "Friends" groups Ducks Unlimited/Fishing Groups Neighborhood Associations	<u>Business and Industry</u> Water labs Forest industries Landscape designers Environmental services Wetlands consultants Agricultural industries

Lesson 7 - CLASSROOM ASSET INVENTORY

Objectives:

Students will be able to:

1. Recognize their own skill set and characteristics as assets.
2. Identify and record assets held by others.
3. Identify ways that student assets affect the local community.
4. Mathematically analyze results of a survey.
5. Identify trends and patterns based on survey results.

Time needed: One 45-minute class

Materials: None

Procedure

The objective of this activity is for the students to discover assets and knowledge they possess which affect their community. This process begins with the "Classroom Asset Inventory" (next page).

Students get an allotted time (20 min.) to get up from their chairs and talk to each other one on one. When students find a classmate who fits an asset listed on the handout, they should record that person's name on the appropriate line. Students should attempt to put a different name on each line, as they might be surprised how many of their classmates have the skills listed.

After this activity, it is important to regroup and discuss the answers found. Each of the 18 characteristics listed describes an asset or community knowledge held by someone in the classroom. These assets could be explored to examine ways in which the students affect the *social, economic* and *natural* components of their community. Questions to examine this information may include:

- Where do students spend recreation money?
- How often do we access parks, natural areas, etc.
- Where do students spend time outside of school?

- How are student assets the same/different from those of adults?
- How do our assets affect who we are as a class?

By calculating the percentage of classmates that posses each asset, a classroom profile can be created. This may help students identify general trends in the ways they interact with their community. Compare the class profile to that of the class next door or in a different school/ community. How are they the same and/or different? Why?

Student Handout 7

Classroom Asset Inventory

Your mission is to record the name of a person in this room who fits each of the following descriptions. The same name can only appear twice in your answers. Good luck!
Find someone who:

1. hikes at least once a month:_____
2. goes camping at least once a year:_____
3. uses public transportation:_____
4. bikes to school:_____
5. can name two local parks:_____
6. has lived in another country:_____
7. knows the name of his/her mayor:_____
8. enjoys climbing trees:_____
9. recycles at home:_____
10. has visited the local library in the last month:_____
11. can speak another language:_____
12. is planning to go to college:_____
13. uses the Internet outside of school:_____
14. has had a job:_____
15. has a garden that produces food:_____
16. plays on a sports team that uses outside fields:_____
17. has visited a national or state park in the past year:_____
18. has planted trees in his/her neighborhood: _____

Lesson 8 - WEB OF INTERDEPENDENCE

Objectives:

Students will be able to:

1. Identify economic, ecological and social components within a community.
2. Explain the concept of interdependence in natural systems.
3. Apply concept of interdependence to the surrounding community.

Time needed: One 45-minute class

Materials: None

Procedure

Every urban community can be viewed as a collection of the economic, ecological, and social components of the area. The community includes the systems in each of these three areas and the interactions between them. Allowing students to explore the extensiveness of this web of interdependence will help to highlight its significance.

In the same way that a community is a web of inter-connections, the elements of a natural ecosystem are interdependent as well. The changes that affect one part of the ecosystems will either directly or indirectly affect other parts of the ecosystem. A quick look at a food chain will help to illustrate this. Hand out the following student handout, *Ideas on Interdependence,* to discuss the food chain diagram and to record student answers for the following activity.

In order to examine interdependence in the community, allow each student to select a resource within the community. This can be an individual, a business, or a natural system for example. The assignment for each student is to then find three changes in the community (one social/civic change, one economic change and one natural/environmental change) that would affect his/her selected resource. For example:

- *A student would be affected if:*
    1. A new law changed school hours [social/civic]

2. A charge was imposed to use the Internet [economic]
3. The local water source was contaminated (no drinking water) [environmental]

- *A local playground would be affected if*:

1. The average age of residents went up [social/civic]
2. Funding for the park was increased [economic]
3. A flood caused mudslides in the area [environmental]

- *A popular chain restaurant would be affected if:*

1. The population changed (that type of food became less popular) [social/civic]
2. A competitor of the restaurant closed down [economic]
3. A drought caused less food production/ higher food prices [environmental]

If students are struggling to come up with economic, environmental or social changes, challenge the rest of the class to create scenarios that would affect those resources. If needed, encourage students to contact someone involved with the selected resource to discuss consequences of possible changes.

Discussion questions after this activity include:

- Was it difficult to find a change of each of the three types (economic, social and environmental)? Which type was most difficult? Did this depend on the resource selected?
- How is interdependence visible in the communities in which we live?
- Are citizens aware of the different impacts that community changes cause? Why or why not?
- Can you think of one change that was made in or by the community that has affected you?

Student Handout 8

Ideas on Interdependence

Parts of our community, just like parts of nature, are connected to each other in many different ways. If we look at a food chain that includes:

Willow Tree → *Leaf Beetle* → *Frog* → *Fish* → *Human*

We know that a drastic change in the population of any member will affect the populations of all of the other members of the chain. A natural event that decreases the number of leaf beetles would hurt the frog population by limiting their food source but would help the willow trees keep their leaves from getting eaten..

In order to think about interdependence in our community, you will select one part of your community and describe three different things that would change it. You can choose a person, place, business, a feature of nature, a school, or any other part of your community.

An example of this is:

- Community Resource: A student
- Social change: A new law that changed school hours would affect a student
- Economic change: A charge to use the Internet would affect a student
- Environmental change: Contamination of the town's drinking water would affect a student

Now, you need to select a different resource to complete the following:

1. Community resource I have chosen: _____

   _____

2. One social or civic change that would affect my resource: _____

   _____

   _____

3. One economic change that would affect my resource: _____

   _____

4. One natural or environmental change that would affect my resource: _____

   _____

   _____

Lesson 9 - FANTASY COMMUNITY

Objectives:

Students will be able to:

1. Identify and list characteristics necessary to a community.
2. Create a visual representation of an ideal community.
3. Make a presentation to an audience.
4. Contrast ideal and actual community plans.
5. Operate within a hypothetical budget.
6. Employ mathematical conversion skills to examine budget figures in percents, decimals, and fractions.

Time needed: One or two 45-minute class periods

Materials: Large pieces of butcher paper for each group

Procedure

In this activity, students are asked to create plans for a "fantasy community," an imaginary place that includes any characteristics they desire. Students will work in groups to discuss what resources should be present in their ideal community, how to arrange them and map the results. As a class, students should think about typical community resources and create a list of facilities that are required in each group's "fantasy community." These can include hospitals, housing (single and multi-family), a town center, public transportation, fire department, library, schools, cultural centers, grocery stores, police station, parks, post office, trees, etc.

Students should be divided into groups of 4-5 and given large pieces of butcher paper or other writing surface to record ideas and map their finished product. Each group should also receive a copy of the *Facts of Your Fantasy Community* handout sheet that follows. Outside of the list of required facilities, encourage students to put whatever they want in the community, keeping in mind that they get to select the climate, geography and recreation points of their choice.

After students have had ample time to map their ideal communities, allow each group to:

- Present to the class the map of their "Fantasy Community"
- Explain important features and the significance of their location
- Share the answers their group wrote on the recording sheet.

A possible extension of this activity would be to create a budget within which the students must work. Required resources could each be assigned a "cost", with enough money in a hypothetical budget to allow for different configurations. Students could calculate the budget in total dollars, fractions, percents and decimals. How does changing the total budget change the community they create? Invite a speaker from your community's planning or land use department to learn about real projects and issues. Have the students view natural resource and/or planning documents to see how these impact the "fantasy communities" created by the class.

Student Handout 9

Facts of Your Fantasy Community

Names of group members:

_____

_____

_____

1. What is the name of your community?

2. What is the climate of your community? How does this affect the choices you made while creating your community?

3. Describe the population of the neighborhood: (Is it a rural, urban or suburban community?)

4. How does the geography of your community influence the way in which it would be built? (For example, think of hills, lakes, bays, location of the town center, etc.)

5. How do people get around your community? Are there sidewalks, buses, and bicycle lanes?

6. What types of work does the population have?

7. Do the citizens of your community produce food or other goods? What are some examples?

8. List two ways your "Fantasy Community" is different from your real community:

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FORMS

The following are a few tools to help students in Community-Based Education (CBE) tackle tasks that may be new to them. Part of being an active citizen involves practical skills such as telephoning community organizations, creating and administering surveys, interviewing community members, using public documents and writing grant applications. Some of these tasks may seem intimidating at first; students may benefit from some practice in small groups of classmates before venturing into the community.

Even with practice and the guidance provided by a written form, it is still important for the students involved in CBE projects to be supported at all times by a teacher or another adult. When telephoning community members, it is recommended to have an adult present for assistance with unexpected inquiries or situations. If students are canvassing neighborhood homes or surveying community members in a public space, adult supervision is recommended as well. This adult support helps to ensure a feeling of student self-confidence and safety.

PHONE GUIDE

This information you should fill out before picking up the phone:

_____ _____
Your name Date

_____
Your school or organization

_____

_____
Your school or organization's address

_____
Your school or organization's phone number

_____ _____
Name of person you are calling His or Her title

_____
Phone number to call

_____
Organization you are calling

Ideas for your conversation:

"Hello. My name is _____ *and I am from*
Your name
_____*."*
Your school or organization

"May I please speak with _____*or someone in public relations?"*
Name of person you are calling

(over)

Things that you are going to say or ask: _____

Answers or information that you are given: _____

"Thank you very much for your time."

INTERVIEW GUIDE

This information you should fill out before the interview:

_____ From: _____ To: _____
Date of Interview Time of Interview

_____ _____
Name of Person Interviewed Organization or Company

_____
Organization or Company Address

_____
Phone Number

Interview to be completed by (circle one): Phone In Person Email Letter

---

Ideas for the interview:

Question you plan to ask: _____
_____
_____
_____

Response: _____
_____
_____
_____
_____
_____

(over)

Question you plan to ask: _____

Response: _____

Question you plan to ask: _____

Response: _____

Notes: _____

"Thank you very much for your time."

SURVEY GUIDE

This information you should fill out before you begin the survey:

"Hello. My name is _____ and I am from _____ ."
Your name Your school or organization

"May I please ask you a few questions about _____ ?"
Survey Topic

Survey completed by (circle one): Phone In Person Email Letter

---

Survey Questions:

1. _____
_____
_____
_____

2. _____
_____
_____
_____

3. _____
_____
_____
_____

4. _____
_____
_____

(over)

Recording Responses:

- Label the top of the columns with the choices you give people (Strongly Agree/Agree/ Disagree/ Strongly Disagree, Yes/ No/ Undecided, etc.)
- Use a line to mark the response of each person (𝍸).

Questions

1. _____

2. _____

3. _____

4. _____

"Thank you very much for your time."

Looks Count!

Lesson 10 - DISCOVERING YOUR SENSE OF PLACE

Objectives:

Students will be able to:

1. List at least three essential "ingredients" of community, and how the appearance of their community contributes to their sense of place.
2. Identify their community's three most important assets.
3. Make predictions about what other age groups like and need from the community.
4. Explore how others feel about their community through books.

Time needed: Two 50-minute class periods

Materials: None

Procedure

Using a variety of activities, students will begin to explore what they believe are the essential ingredients of community, how the appearance of their community contributes to their sense of place, how they feel about changes to their community, and how others in their community feel about this place where they live. These activities can be conducted all on one day, as stations, or they may be done individually over a period of days.

You may want to assess your students' ability to define their sense of place and what they value in their community, before beginning this unit, and again after the unit. You could ask students to describe their "ideal" community by posing this question for students to write about in their journals, "What would the perfect community be like?"

Set up the following stations in a large classroom or library:

Station A. ***Diversity of Communities***

Using postcards, brochures or pictures of different communities (small towns, suburbs, sprawl, large cities) from a travel agency or Internet, students will identify those places that they find attractive and those places where they would not like to live.

- Students record their responses from class determined criteria and scale onto a data table, and then transfer their responses to a large tally sheet posted on the wall for class responses.
- Compare and discuss students' responses. Does everyone like the same places? Which do they like least? Why? Which is most like where we live?

Station B. ***Values Barometer***

Students place themselves on the line from 'Agree Strongly' to 'Disagree Strongly' for selected questions relating to changes in their community. Students observe that there are many different ways to feel about things. See sample questions in Station B – Values Barometer Statements

Station C. ***What Is Special About Your Community?***

Students list what is special about their community or what they like about their community on a large sheet of newsprint on the wall. Later, note the similarities and differences in students' responses.

Station D. ***A Memorable Place***

Students write a paragraph describing a *place* that moved, inspired, or profoundly impacted them (positively or negatively).

Station E. ***Quotable Quotes***

Students review a variety of books to identify a quote that describes their own sense of place and explain why. Possible books: Earth Prayers, Pilgrim at Tinker Creek by Annie Dillard, A Year in the Maine Woods by Bernd Heinrich, Sand County Almanac by Aldo Leopold, The Wisdom of the Native Americans, ed. Kent Nerburn. Your choice of books will guide your students' in the direction of the visual environment and sense of place. See handout for Station E – Quotable Quotes.

Station F. ***Photo Comparison***

Students compare a variety of photos (taken by the teacher) of the local area that characterize the community. This is a warm-up for the lessons that follow. Possible photos to include are: franchise buildings, historic buildings, parks, parking lots, use of landscaping and similar photo without landscaping, ugly large signs and attractive signs, etc. See handout for Station F – Photo Comparison.

Station G. ***Predictions***

Students make predictions about what makes the area a good place to live for each of the following four age groups: a) parents of 0-5 years, b) 6-12 years, c) 13-22 years; d) 23-59 years; e)

60+ years. Discuss whether all age groups have the same needs? Do the needs of some residents conflict with other residents' needs? For example, do all age groups have the same needs for: safety, playgrounds, skate parks, ice skating rinks, golf courses, transportation options, fast food restaurants, libraries, etc. How can our community provide for all residents' needs? See handout for Station G – Student Predictions.

Station H. *Home: A Journey Through America*

Students read the book *Home*: *A Journey Through America* by Thomas Locker. 1998. (ISBN: 015201473X) and write a poem or paragraph describing their home. Then, if time, they draw or paint their community, following the examples in *Home*. For artists and writers, home can become part of how we see the world and how we shape our words or our artwork. For everyone, the place we call home becomes a part or our lives. This book contains writings by various authors about the places that they call home—Pacific coast, plains, Midwest heartland, Hudson River valley, and more.

Assessment

Each group will complete all the stations in a given time frame and turn in their completed record/response sheets.

Station B- Values Barometer Statements

What do students *value or think* about different aspects of the community in which they live?

As the teacher reads each statement below, the students should position themselves along a continuum marked on the wall or floor, labeled *Strongly Agree* at one end, and *Strongly Disagree* at the other end. Have students note the variety of perspectives within their class. Would they expect the same responses from their parents? Grandparents?

1. My community has a sense of pride.
2. Our area needs more malls and shopping centers.
3. Our area has too many parks and recreational areas.
4. Property owners should have the final say in what happens on their land.
5. Water quality is not important to my community.
6. It is important to maintain habitat in our community for birds and wildlife.
7. Streams get in the way of community growth and development.
8. Businesses should not be allowed to put up big billboards advertising their businesses, only smaller ones should be allowed.
9. We should have more big franchise restaurants and stores so we can be like everywhere else.
10. Unique natural habitats, geologic formations, and historical places in our area should be protected.
11. It doesn't matter to me how our community changes in the next 20 years.
12. I should have a say in how my community grows.
13. Communities need to provide safe ways for people to walk and ride bikes to places.
14. New buildings do not need to blend in with the buildings already in our community.

Station E - Quotable Quotes

#1 Quote:

Source (Title and Author):

#2 Quote:

Source (Title and Author):

#3 Quote:

Source (Title and Author):

Station F - Photo Comparison

Look at the variety of photographs displayed on the table. Select one photograph that you really like, and one that you don't find attractive. Then answer the following questions about the photographs.

Photograph that I really like # _____

Photograph that I like least # _____

1. I think # ____ photograph is attractive because:

2. Photograph # ____ reminds me of:

3. Photograph # ____ could become more attractive if the following was changed:

4. If I lived in # _____, I would:

5. I don't like photograph # _____, because:

Station G - Student Predictions

For each of the categories listed below, make predictions about what makes our community a good place to live for each group.

Babies and Toddlers (0-5 years of age)

Elementary Students (6-12 years)

Middle, High School and College Students (13-22 years)

Adults (ages 23-59 years)

Senior Citizens (ages 60 and older)

Lesson 11 - WHO OWNS THE LAND— A PLAT MAP COMPARISON

Objectives:

Students will be able to:

1. Interpret a land description, and locate a parcel of property on a plat map.
2. Analyze map data and draw conclusions about lot sizes and ownership changes in the community, and how this might affect land uses and other aspects of the community.
3. Explain legal transfer of property.

Time Needed**:** Three 50-minute class periods

Materials: None

Procedure

This lesson is designed to help students recognize changes in ownership and land divisions by comparing local plat maps for their community over several years. Working in pairs, students choose a parcel in the oldest plat book, according to township survey information, and note the changes that have occurred in ownership and lot size (due to subdividing), from the oldest plat book to the most recent. NOTE: Plat books are generally updated every three to four years, and are typically available from a real estate office or a county extension office. Permission to reproduce maps or images may be required on copyrighted material.

1. Before Class: make overhead transparencies of the map of interest from each plat book, for each year.

2. Instruct students on the history of Northwest Land Ordinance of 1787, land descriptions described in plat book, surveyor's role in dividing land for ownership and tax purposes, and system of township/range numbering within a township. NOTE: You may want to invite a local history organization or surveyor into your classroom to teach your students about land descriptions and subdividing.

3. Develop a color key that corresponds to each year, for each of the plat maps used for comparison. Then distribute highlighters and copies of plat maps to students.

4. Students should highlight the same land parcel on each of the plat maps, using the color key from #3 above.

5. Students should record the changes in ownership and size for their parcel for each year.

Assessment

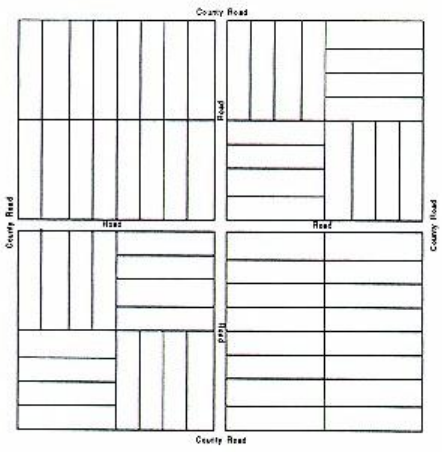
Completed maps highlight changes using appropriate color code. Students should be able to answer comparative questions such as: What period shows the most change? Has the land use for the parcel changed? How was this land being used (may have to hypothesize) in the first plat map, and how is this land now being used?

Extensions

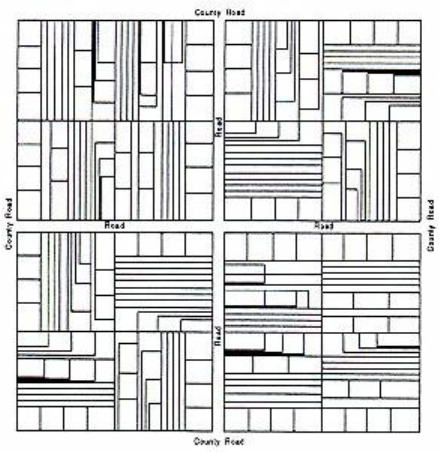
1. Research the ownership changes on their family's property.

2. Research the historical significance of the Northwest Ordinance to the local area.

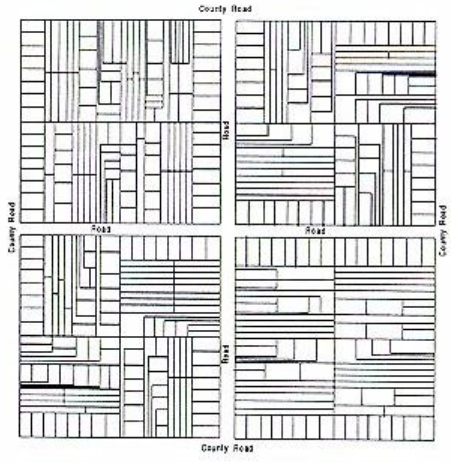
1 SECTION, FIRST DIVISION INTO TEN ACRE PARCELS



1 SECTION, SECOND DIVISION, 4 PARCELS FROM EACH TEN ACRE PARCEL



1 SECTION, THIRD DIVISION, EACH PARCEL DIVIDED ONE MORE TIME. PARCEL SIZE LESS THAN 2 ACRES



Looks Count!

Lesson 12 - NEIGHBORHOOD VIEW TEAMS

Objectives:

Students will be able to:

1. Interpret a land description, and locate a parcel of property on a plat map.
2. Analyze map data and draw conclusions about lot sizes and ownership changes in the community, and how this might affect land uses and other aspects of the community.
3. Explain legal transfer of property.

Time Needed**:** Three 50-minute class periods

Materials: None

Procedure

Working in small groups, students explore an assigned area of their community, such as several city blocks of the commercial area or a neighborhood, noting: architectural details, presence of green space, signage, landscaping, utility lines, whether the area is pedestrian-accessible, compatibility of building uses and building designs, and whether they would consider the area's overall visual appearance pleasing.

Warm Up #1 (optional):

To familiarize students with the visual choices that communities can make about a wide range of visual characteristics, have them watch an introductory video. One recommended video is *Community of Choices* by the Dunn Foundation. (To order the video, contact the Dunn Foundation, 320 Thames St., Rm274, Newport, Rhode Island 02840 or email: www.dunnfoundation.org . The video can be purchased for $40 as part of the ViewFindersToo curriculum package.) The *Community of Choices* video illustrates how planning is the key to protecting and enhancing the natural, cultural, and historic characteristics of a community. Another video, *Back to the Future: Designs for Walkable Neighborhoods* illustrates how community sprawl impacts citizens' quality of life and provides suggestions for how to design for diverse land uses while still maintaining a sense of community. (*Back to the Future* can be ordered for $4.00 from Citizens for a Better Environment, 152 W. Wisconsin Ave., Suite 510, Milwaukee, WI 53203 or phone: 414-271-7280.)

Prior to watching either video, have students make a record sheet with two columns. Label the first column "Common Approach" and the second column "Better Approach." In the first column, students list five "problems or concerns related to community growth" and in the second column list how these concerns could be addressed.

Warm Up #2 (optional):

To get students out in the community looking at the natural landscape of where they live, conduct a community scavenger hunt of your community. Students either carry this out during class time, or can be assigned to do this on their own time. Teachers will need to design a scavenger hunt that is appropriate and applicable for their community. This can include a variety of questions regarding land use, management, history, and/or appearance of their neighborhood.

Photographing Your Community

1. Group class into teams of 3-4 students. The teams will continue to work together throughout the entire unit.

2. Using a map of your community that you may obtain from your chamber of commerce, divide the community into different areas or neighborhoods of one or more blocks. Assign an area to each team. If your community is small, or your class size large, an area may have more than one team assigned to it. It is important that the areas are large enough, so that students can look at how the buildings and/or land uses in an area fit together. Each team will focus on their area throughout the entire unit.

3. Have student teams take photos of their assigned areas in the community. There are several ways to get these photos. Photos may have already be available from various city agencies and organizations, the teacher can take the pictures, or the students can take the photographs. For student pictures use the following guidelines:

    a. Provide each student group with an instamatic, disposable, or digital camera (digital photos are recommended). You may have a designated time during the school day for groups to walk around town and take photos with a supervising teacher, aide, or parent, or you may choose to make this a homework assignment. The students within each group arrange their own camera rotation schedule, so each student can have the camera over-night to take their pictures and then pass the camera onto the next student in the group. Perhaps some students will have their own digital cameras that they can use to take their pictures. Try to complete the picture taking in one week, as subsequent unit activities depend on having the students' photographs available.

b. Instruct students how to use a camera and take good photographs: lighting, composition, focus, background/foreground, streetscape versus individual building, etc.. Perhaps you may want to invite a local photographer to conduct a photography workshop with students.

c. Each group member will take six pictures of their area. The photographs will be used again in Lesson 13 (*What Do You Want Your Community to Look Like?*), Lesson 14 (*Here is What's Great About My Community*), and Lesson 18 (*Sharing With the Community*). Students should be instructed to photograph cultural and natural features that illustrate the attractiveness or unattractiveness of the neighborhood or community, such as:

- Overall visual character of area (streetscape)
- Signage
- Parking lot design
- Street trees and landscaping (or lack of)
- Streetlights, utility poles, cell towers
- Street art or murals, street furniture, fountains, and other features
- Green or open space
- Architecture or design of buildings

4. Students should enter each of their photographs into the table on the next page (Photographic Record) and answer the questions.

5. Each group will develop a visual improvement plan for their area. At least four improvements need to be addressed in their plan. The teacher should provide an outline stating what should be involved in the plan. A good reference is the guidebook titled, *Design Guidelines for Enhancing Community Appearance* by the Western UP Center for Science, Mathematics and Environmental Education (www.wupcenter.mtu.edu)

Assessment

Students are able to categorize land uses and describe their neighborhood photos using the proper vocabulary. Students are able to assess whether their "streetscape" is visually pleasing to them, or contains examples of "visual pollution." Students are able to make recommendations for improvement.

Students Names _____

Photographic Record

Each student should number their six best photos from 1-6. Next, enter the number of each photograph into the table below (under photo #) next to as many of the neighborhood features as are illustrated in the photo. Write what you like or dislike about the particular features illustrated in each photograph. Place your numbered photos into an envelope and turn in with this assignment.

Photographic Record Table

Photo #	Neighborhood Features	What I Like About Photo	What I Don't Like About Photo
	1. Visual character of area.		
	2. Signage on and off-premises		
	3. Parking lot design		
	4. Landscaping		
	5. Streetlights, utility poles, parking meters, street barriers.		
	6. Street art, street furniture, fountains and other features		
	7. Open space or green spaces.		
	8. Architecture of buildings		
	9. Compatibility of building design and other built features.		

1. Describe the 'visual and natural character' of your area---pleasing, unpleasant, colorful, cluttered, open space, scenic views, shade trees, landscaping, etc.

2. Do all of the buildings in your neighborhood have the same 'look' and blend together well? What natural resources were used to construct the buildings?

3. Are there lots of signs, streetlights, and utility poles visible? Do they blend into the area or stand out? Is the community inviting? Does it encourage people to visit? Hang out?

4. Compare characteristics of your neighborhood to the characteristics of at least two other groups. Explain (on the back) whether your neighborhood looks similar or different to the neighborhoods photographed by other groups. Consider whether buildings from your neighborhood would fit in well with buildings in other groups' neighborhoods.

Looks Count!

Lesson 13 - VISUAL LANDSCAPE—
WHAT DO YOU WANT YOUR COMMUNITY TO LOOK LIKE?

Objectives:
Students will be able to:

1. Describe the community character of their community or neighborhood.
2. Suggest modifications to the community streetscape or individual buildings that incorporate visually pleasing design principles, and explain why each was selected and its impact on the community's visual appearance.

Time Needed: Two 50-minute class periods
Materials: None

Procedure

Students examine their community, or a neighborhood in their community, and sketch their plans for redesigning streetscapes or individual buildings to be more visually attractive and to enhance the overall visual appearance of their community using suggestions listed below or described with line drawings and photographs in the *Design Guidelines to Enhance Community Appearance* guidebook (www.wupcenter.mtu.edu)

Warm Up #1 (optional)

Before beginning this activity, show your students the video *Looking at Change Before It Occurs* (17:20 min.) by Maguire/Reeder Ltd., Alexandria, VA and distributed by Design Access 401 F St. NW, Washington D.C.

Part I – Sketching Improvements

1. Students select a photo of their community that shows a view of a city block, landscape, or viewshed that they would like to "improve" the appearance of. If possible, use photographs from Lesson 12 - *Neighborhood View Teams.*

2. Using a copier, enlarge each student's photo to fit a sheet of 8 ½" x 11" paper.

3. Tape the photocopy against a backlit exterior window or a light table, and tape a piece of tracing paper over the photo. NOTE: some students may be more comfortable sketching on a desk, which is fine, as long as the detail of the photocopy shows through the tracing paper.

4. Students will trace their picture onto the tracing paper with a #2 lead pencil (not pen!). The students may choose not to sketch in any features of the photo that they would like to 'remove' from the scene, for example buildings that don't "fit in," architectural features on buildings, transmission lines, unattractive signage, exterior building materials or an out-of-character "addition," etc.

5. Next, students brainstorm a list of possible improvements to a building or streetscape to enhance its visual appeal and sense of community. Here are some ideas to consider:
    - additional windows, or differently-sized windows on buildings
    - landscape design elements for buffering, screening, or aesthetic enhancement
    - size, location, height, materials, and design of street/building signage
    - pedestrian accessibility
    - street furniture, benches, awnings
    - exterior building materials or colors consistent with community character
    - street lighting amount and style

6. Students sketch in the features that they would like to 'add to the scene.'

7. Collect the sketches and photocopy each one before the students proceed to coloring in details.

<u>Part II</u> – Describing Your Improvements

8. Upon completion of the sketches, students will write a paragraph explaining what changes they have made to the original picture and why. Have students respond to some or all of the following questions in their paragraph:

    - Why would changes to the landscape, streetscape, or a particular structure, benefit the neighborhood or viewshed?
    - What do you like about the visual appearance of the neighborhood? What is unique about this part of the community?
    - Why would someone want to move to this part of town? Is it close to parks or other natural areas?
    - Does this area fit the surroundings or is there a way to enhance the structure(s) to better blend in with the character of the neighborhood?
    - Why did you select the "improvements" that you made to the overall landscape or streetscape?

Assessment

Evaluate the following aspects of each student's work:

- attention to detail in their tracing
- creativity in designing improvements to their streetscape
- well thought-out responses to questions about their sketches, color, form, drawing, labeling, etc.

Looks Count!

Lesson 14 - HERE'S WHAT'S GREAT ABOUT MY COMMUNITY

Objectives:

Students will be able to:

1. Identify at least five features of their neighborhood that would appeal to their audience (senior citizens, families, teenagers) to describe in the brochure.
2. Organize information, write and edit the text for their neighborhood promotional brochure.
3. Utilize software programs such as Microsoft Publisher or PowerPoint to design a brochure that will visually attract and engage their audience. Use a minimum of three graphic images---photographs of their neighborhood, graph of survey responses, map of location in the community, drawings of neighborhood features, or other illustrations.
4. Be able to critique another student groups brochures using the rubric on the following pages, and provide helpful suggestions.

Time Needed: Two 50-minute periods to design and three 50-minute periods to produce

Materials: None

Procedure

Students design a brochure that highlights the aspects of their assigned neighborhood or part of the city that they value. Some aspects for students to consider are: visual character of the buildings, access to open space and public recreational opportunities (beach/swimming area, forested trails and opportunities for solitude), views, proximity to a ice cream shop or other hang-out area, or whatever else makes their area a good place to live. The teacher can decide on who the target audience should be for the brochure, as that will influence the features of the neighborhood that students should focus on.

Part I.

Set up a table with sample tourism attraction brochures. Choose two brochures with the same

theme for comparison purposes. Working in groups, students compare and discuss brochure sizes, layouts and text to determine what is pleasing and effective. See handout, "Brochure Critique", for students to complete.

Part II.

Student groups develop an informational brochure (8.5 x 11 inch or 8.5 x 14 inch paper) designed to share their knowledge of land use planning and describe the attractive features of their neighborhood or community. The target audience will be people who are interested in living in that neighborhood or town. The brochure must include a minimum of three illustrations.

Discuss what makes a community or neighborhood an attractive place to live. The survey responses of 2000 new homebuyers ranking community amenities is in a report published in April 2002 by the National Association of Realtors (NAR) and National Association of Homebuilders (NAHB). A partial list of the amenities is listed below and should give students some ideas for what they might include in their brochures. The full report is available at: http://www.realtor.org/publicaffairsweb.nsf/Pages/SmartGrowthSurvey02 .

Survey Question:

Please rate the importance of the following community amenities that would seriously influence your move to a new community, realizing that these features, in varying degrees, may increase the cost of the home or involve higher homeowner association fees or local taxes.

44%	Highway access
36%	Walking/jogging/bike trails
28%	Sidewalk on both sides
26%	Park area
21%	Playgrounds
19%	Shops within walking distance
16%	Lake
15%	Close to public transportation
14%	Day care center
10%	Business center
9%	Basketball courts/Soccer field
7%	Card-operated gate (no guard)
6%	Baseball/softball field
6%	Golf course
6%	Clubhouse
5%	Security guard at gate
4%	Tennis courts
3%	Equestrian facilities

1. Student groups develop a draft of their brochure (draw out on paper), text and illustrations, to share with the teacher, or another student group, prior to beginning their computer layout.

2. Student groups exchange their draft brochures with at least one other group for critique and comments. Comments are written down and turned into the teacher, if desired.

3. Brochures are edited and design is finalized. Be certain that the group members' names are placed on the back of the brochure under "credits."

4. Use the "Brochure Rubric" to score the brochure and have students complete the Group Project Evaluation. Students may want to fill out the "Group Project Evaluation" form as a way to share with the teacher dynamics of their group because all group members are listed on the form, and individual students' comments are anonymous.

Optional: One copy of the finished brochure is attached to the final presentation boards (see Lesson 18 Sharing With The Community). A second copy of the brochures is turned into the teacher.

BROCHURE CRITIQUE

Select two brochures to answer the following questions.

Title of brochure #1 _____

Title of brochure #2 _____

Part I. Design & Lay-Out of Brochure

1. Is the brochure in color or black and white?

2. Does it have photographs or sketches?

3. Does it tell its "story" mostly through text or illustrations?

4. For audience is the brochure written? (Kids, families, just adults, etc.?)

5. How does choice of punctuation and capitalization affect the message being communicated?

Part II. Content of Brochure

6. What is the brochure trying to get you to do?

7. What natural resource is being promoted by this brochure?

8. Is the brochure effective at reaching its audience? Why or why not?

9. List some of the adjectives (loaded words) used in the brochure.

10. Are these accurate? Believable? If you live here, is it really like they describe?

11. Does your group like or dislike the brochure? Explain.

BROCHURE RUBRIC

Design

Neatness, quality of work	_____/10
Blocks of text are appropriately labeled with headings	_____/5
Informational text is well organized, easy to understand for target group, and free of grammatical errors	_____/20
Contains a minimum of 3 illustrations.	_____/10
BONUS: Work above and beyond what is expected.	_____/ 5
	TOTAL_____/50 PTS.

Content

4-6 panels of text with a minimum of 3 drawings, maps, or photos	_____/20
Text describes 5 community amenities appropriate for target audience	_____/20
Map of neighborhood location within community is geographically correct	_____/5
BONUS: Work above and beyond what is expected	_____/ 5
	TOTAL_____/50 PTS.

GROUP PROJECT EVALUATION

GROUP MEMBERS: _____

_____

1. Describe how your group worked together.

    A. We worked well together, no problems.
    B. After a slow start, we worked together.
    C. We had a few problems, but each group member contributed to the project
    D. One or two group members did all the work for the project.

2. Time spent working together during school.

    A. Less than 1 hour.
    B. 1-5 hours.
    C. 5-10 hours.
    D. More than 10 hours.

3. Time spent working together after school.

    A. Less than 1 hour.
    B. 1-5 hours.
    C. 5-10 hours.
    D. More than 10 hours.

4. For cooperation, I would rate our group (0=poor; 10=excellent):

    A. 0-2, minimal cooperation.
    B. 3-5, some cooperation.
    C. 6-8, everyone contributed.
    D. 9-10, the BEST! We worked great as a team!

Comments and/or suggestions (use back, if necessary):

EXPLORING YOUR COMMUNITY

INTRODUCTION - Tools

As educators begin to engage students in the exploration and discovery of their community they often look for supporting curriculum and resources to assist them. The previous section of this manual provided some curriculum support for getting students to understand what their community is. In addition to curriculum materials there are numerous resources or tools that can be used to enrich and expand the curriculum and the exploration of their community.

The three tools summarized in the next section of this manual allow for more detailed analysis of the community around you. *Community Video,* an Orton Family Foundation program, provides a process for the visual documentation of the community and the important issues that face its citizens. There is contact information at the end of the summary for those who are interested in acquiring the entire set of materials for implementation this program.

The second tool summarized in the following section, *CommunityViz,* is also an Orton Family Foundation program. This software allows for the visual examination of the community and can assist in helping make decisions about land use, community planning, and management of natural resources. Contact information for more details on the software and its educational use is provided at the end of the summary.

The third tool highlighted in this section, *SketchUp,* allows for the study and design of the built environment and the resulting interaction between the economic, social, and ecological factors of a community. This software can assist in the understanding these factors and community development. Information on accessing this software is provided at the end of the summary.

Community Video

Engaging Citizens in Creating a Community Documentary and Vision

The *Community Video* program is an affordable and innovative means to engage citizens and community leaders in meaningful discussions about the land use and development decisions they must face together. In making a community video, citizens come together to identify and ultimately "own" community issues. They articulate a vision for the future and identify action steps toward achieving their vision. The resulting video – a community documentary – is used as a catalyst for further community discussions and action.

First piloted in Vermont and Colorado, the *Community Video* program was then detailed in a how-to manual published by the American Planning Association, called *Lights, Camera, Community Video: Engaging Citizens in Creating a Community Documentary and Vision.* It includes the expectation that these community documentaries will capture past, present and future aspects of the community as a whole. Many towns around the country have embraced this approach, often as part of a town planning process. The manual is geared toward an adult community-based group orchestrating this work. The program was field-tested in 2002 with six communities across the country. The video production effort helped to focus attention on each community's challenges and resources, catalyzing efforts to take on new projects and manage change.

The manual provides clear, easy to follow information on how to:

- Convey the power and excitement of video production to community residents, encouraging them to join in a discussion of the issues and opportunities they face and the future they desire.
- Incorporate a wide variety of perspectives, create widespread "buy-in," and energize community members in a way that leads to greater communication and networking.
- Involve young people in the production and engage their schools in providing volunteers, equipment, and expertise.
- Complete the video within a modest budget that virtually any community can afford.

As a process that involves the entire community, community video production encourages cooperation, dialog, and planning among local citizens. It brings together diverse groups, enabling them to reach mutual understanding and unite in working toward a common goal.

The video's completion is an event worthy of celebration by the entire community. For current and future generations, it offers a substantial depth and breadth of historical, social,

political, and economic insights. As a vibrant group portrait in image and sound, it remains a timeless legacy to your community and its people.

Because young people are increasingly interested in the video medium and technological proficiency, Orton next engaged several high school classes, some in partnership with the Vermont Rural Partnership, in creating community videos. It is also clear that leadership skills taught in the abstract rarely capture the interest of high school students. Creating a community video seemed like a perfect way to meld leadership skill development with a multitude of academic goals through an engaging experiential, place-based learning task. If adults found this work valuable, why not youth, working in partnership with adults?

Out of this work, the Foundation, with the Vermont Rural Partnership, published: *Lights, Camera…Leadership!* a high school course that develops leadership and academic skills through the process of making a community video. The guidelines for the course video project are as follows:

- Develop a thought-provoking community video that captures some important aspect of your community from past, present and future perspectives.
- The community video should inform, persuade and/or influence viewers' perspectives on the given topic.
- The community video should present a balance of what the community is doing well concerning the issue, along with the challenges that must be faced.
- The community video will be premiered at a community gathering, followed by a student-facilitated dialogue session.

Among the many benefits of the community video process are the following:

- Encourages the community to join together in considering its future.
- Increases community involvement by people of all ages and perspectives.
- Affirms the value of individual participants' points of view.
- Offers young people an opportunity to articulate their views, interests, and goals.
- Unites diverse groups in working toward a shared goal.
- Involves local schools.
- Teaches multimedia skills to participants.
- Fosters a spirit of volunteerism.

Among the many benefits of the community video itself are the following:

- Documents historical trends.
- Creates a multimedia family album of the community.
- Presents historical and current information to young people and new community members.
- Promotes business and economic development by serving as a promotional tool.
- Boosts morale.
- Provides motivation to revitalize the community.
- Preserves historical information for scholarly and informal study.

For more information contact: Paul Sachs, *Community Video* Program Manager, The Orton Family Foundation by e-mail psachs@orton.org or phone (802) 773-6336.

CommunityViz

Software for helping make decisions about natural resources, the land, and communities

As they change and grow, communities are faced with decisions of where and how to develop. If you could draw a map of your community 20 years from now, how would you want it to look? Where are the best places to put houses, parks, and roads?

These decisions can be complicated as there are many factors to consider. For example, natural resources such as wetlands and wildlife habitat may compete for space with the building of houses, stores, and schools. There are economic, social, and environmental factors to balance in making decisions about development.

CommunityViz software helps people understand those complex factors. It provides a way to look at land-use choices on a computer before implementing them in real life. People can weigh pros and cons, have conversations, try out different ideas, and then make appropriate, informed decisions.

To make the information easy to understand, *CommunityViz* software emphasizes visualization. You can create highly realistic, three-dimensional simulations of real places – even whole towns or neighborhoods – on the computer. Using your mouse, you can "walk," "drive," or "fly" through the scenes to look around. Then you can change the scenes by adding or removing houses, trees, and roads to try putting a new housing development in and see how it looks. Then click a button to view an alternate proposal, to see if it better balances all of the necessary factors for that setting.

These three-dimensional models are linked on the computer to two-dimensional GIS maps, and to formulas that calculate information about the proposals. How much will this proposal cost, for example? How far will children have to walk to school? Will a particular house be too close to the nesting site of a rare bird?

In addition, *CommunityViz* software functions as an extension to the industry ArcGIS software platform from Environmental Systems Research Institute (ESRI). It is necessary to have ArcGIS software in order to use *CommuityViz* software. The satellite photos, maps, local information, and formulas necessary to create the scenarios do not come with the software. You provide those yourself, as you would provide the numbers and formulas that go into an *Excel* spreadsheet. A great deal of data is available for free through government websites. For other data, you may need

to establish partnerships with local planners who have these data sets. This means that using *CommunityViz* software takes some work but most importantly it means that the answers you come up with are *your* answers, from your own questions and from your own community. The pictures shown below illustrate a small example of the types of things you can do with the software.

Using *CommunityViz* Software to Teach

CommunityViz software is an excellent teaching tool because it provides an easy, engaging means to learn about land-use decisions. Schools can purchase the software at highly discounted prices. Short of purchasing and installing the software themselves, teachers may want to consider:

- asking for a demo or small workshop from a local *CommunityViz* practitioner or university professor. City or county planners are good places to start looking as well.
- having students support a current local *CommunityViz* project by taking digital pictures of the neighborhood, gathering data, or writing analysis formulas.

The tutorials that come with the software provide ready-made examples and exercises.
For an even easier introduction to the technology, teachers can request a free CD with sample 3-D scenes that computer users can fly through and explore. These, paired with sample reports and charts, are a good way to engage students and can be used as the basis for a guided discussion about land-use choices, alternatives, and impacts.

CommunityViz is a program of The Orton Family Foundation. To find out more, visit www.communityviz.com, or call 303-442-8800.

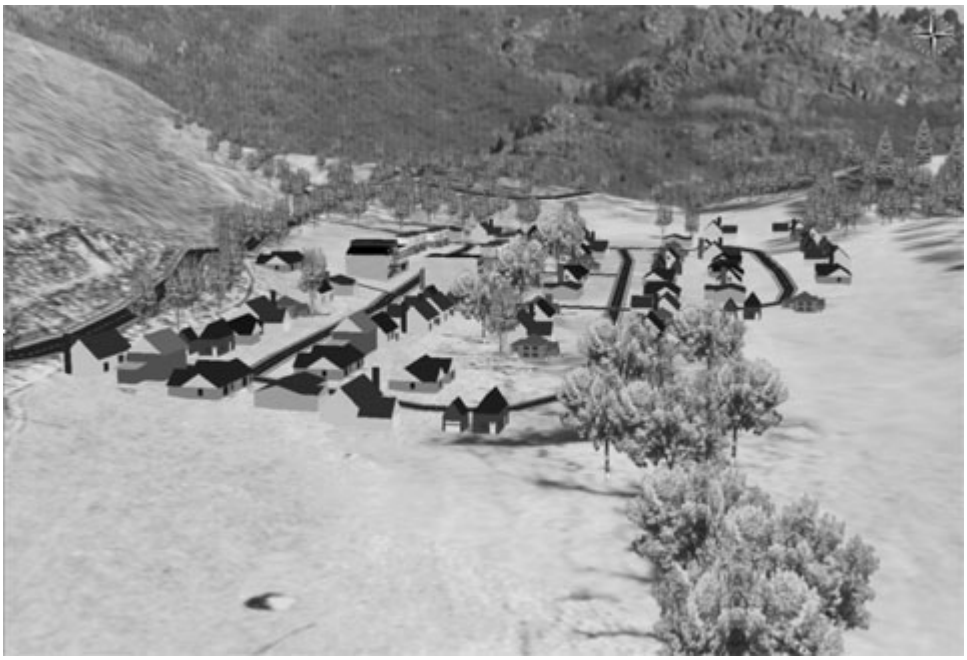


FIGURE 1: A computer-generated 3-D model of a small neighborhood, created using *CommunityViz* software. The land and trees are real, but the buildings are only proposed. The scene models a meadow high in the mountains. With the software you could "walk" through, explore, alter, and analyze the impact of development proposals.

SketchUp

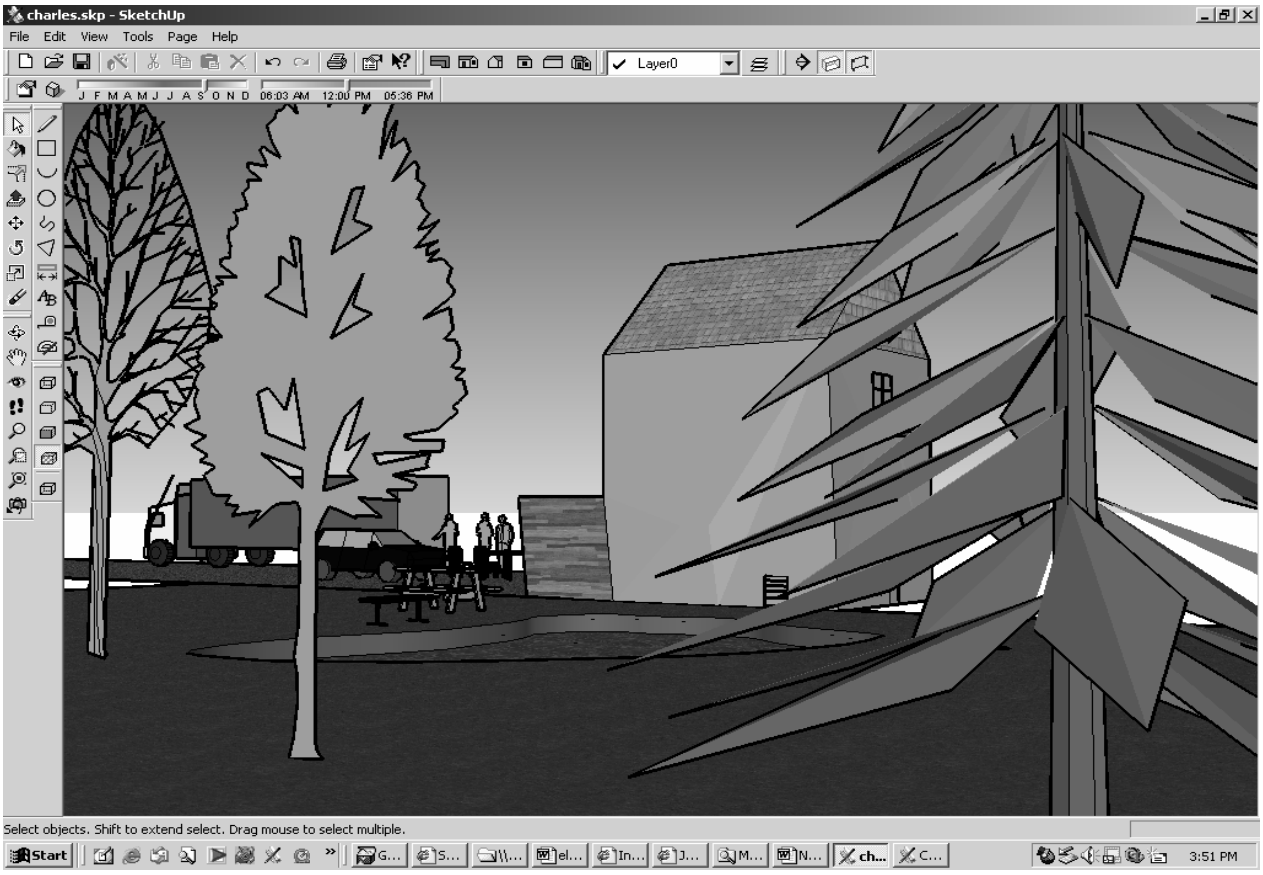
Software for building and studying our communities in 3-D

As the communities we live in are developed we, as citizens, are asked to make many decisions that will have a major effect on our towns, the environment and our quality of life. If someone tells us the city is proposing to build a hospital next to the elementary school in town, most of us visualize a very large, non-descript box. We may wonder if this is indeed a good idea or not. What if we could not only see the proposed hospital before it was built but also would be allowed to see changes and modifications that we might suggest? This may allow citizens to be a part of the design and decision-making process. It would also open the door to more constructive discussion since citizens could actually see the building plans in three dimensions rather than have to use their imaginations from architectural plans.

There are several software applications that are designed to allow people to model in three dimensions in order to address these kinds of questions. Unfortunately, most of them are extremely complex, expensive and difficult to use. Fortunately, a software package called *SketchUp* was designed to be 3-D for the ordinary citizen. *SketchUp* allows people to quickly and easily model and study their built environment and its affects on the surroundings. Since the tool set is based on familiar objects such as a pencil and eraser most people find it to be extremely easy to learn and use.

In the example of the hospital, will the new hospital block the students' view of the mountains? Will it shade the playground during the summer? If so, will the playground be shaded during school hours? Will planting a row of trees decrease the visual impact? How tall should the trees be? How will increasing or decreasing the height of the hospital affect your school? How will the view of the hospital appear to a 5'6" adult? What about a 3'6" child? *SketchUp* allows us to answer these kinds of objective questions and helps us to develop an informed opinion.

The hospital scenario is only one example of how *SketchUp* could be used to help citizens better understand the impact of development on their community. It would also be the perfect tool to design the hospital. The software could be used to model the physical structure and then to perform solar studies to help ensure that the design takes advantage of the sun's heat and light in the winter while also making use of trees or overhangs to ensure that spaces don't overheat in the summer. It could even be used to create an animated walk-through of the hospital's interior.



The figure above is 11-year old Charles Faber's first ever *SketchUp* model. Charles e-mailed us to say, "I really like *SketchUp* because it is so user friendly!" Although not visible in the above image, Charles also furnished the interior of the cabin.

While *SketchUp* is a professional tool that is used to design everything from skyscrapers, to roller coasters, to home remodels, its ease of use makes it very accessible to younger users as well. Students have used *SketchUp* with inspiring results to design tree forts, skateboard ramps, castles and to recreate their own homes. In addition there are a variety of potential uses in communities where development is a critical issue. Building design has the potential to better balance the economic, ecological, and social factors of a community.

SketchUp's educational program is used by well over 100 educational institutes ranging from elementary schools to universities. *@Last Softwar*e makes *SketchUp* available to educational institutions for a greatly reduced price. More information is available on their website - http://www.sketchup.com/ed_program.php Their website is a great resource that can quickly help you to better understand *SketchUp* and potential applications for the software. Their video tutorials are a great way to see *SketchU*p in action and they provide a quick and painless way to learn to use the software. http://sketchup.com/training30.php

SketchUp (Developed and marketed by *@Last Softwar*e) A free evaluation copy of *SketchUp* is available for download from the website - http://sketchup.com/eval/ Educators can obtain a CD that contains an evaluation copy of *SketchUp* and 30 video tutorials by calling *@Last Softwar*e – (303) 245-0086.

NEEDS AND OPPORTUNITIES ASSESSMENT

INTRODUCTION - Lessons

The lessons and tools from the first section of this manual allow students to identify the community, some of its assets, its visual appearance, and some resources available to explore the community in more detail. The next step in developing a community-based project is to do a needs or opportunities assessment. In this way authentic and valued educational experiences can be selected and students can serve as a resource for their community. They will now have the context of what the "community" is in the community-based project.

There are a variety of lessons that can be used to discover the important issues, needs, and opportunities to all citizens including younger ones. In this section of the manual there are several lessons (continued from the first section of this manual) that can help teachers to discover what opportunities may be available for students. In addition there is a series of lessons included, developed by the Center for Science Education at Portland State University, that can guide students in surveying their community for those needs and opportunities available to them.

Lesson 15 - BRAINSTORMING COMMUNITY OPPORTUNITIES

Objectives:

Students will be able to:

1. Demonstrate the ability to brainstorm effectively.
2. Identify and list opportunities for change in the local community.
3. Identify the main idea of a written article.

Time needed: One or two 45-minute class periods.

Materials: Local newspaper, magazines, or neighborhood publications

Procedures

Recall the results of looking at the assets within the classroom and the larger community. Community opportunities can include places and methods in which these assets could be explored, enhanced or shared. The assets of a community member or organization can be used to improve or develop other parts of the community. Students will now focus on how their assets can be used.

In this activity, students will read articles in the local section of the newspaper, a community newsletter or other neighborhood publications. Each student should be asked to review two articles and answer the following questions for each article:

- What is the community issue described in the article?
- How do you feel about this issue? Why?

After students have had time to describe the articles, as a class they should list community issues about which they read. When the teacher is done listing these issues, the class should brainstorm other ideas of issues the students could see themselves addressing in their community. Remember-this is just a list of ideas! The primary prompt for this activity is:

- Which issues could our class impact in our community? How?

After the students have had time to provide as many ideas as they can, some additional prompts might include:

- What would you like to see changed in your community?
- Are there natural assets such as vacant lots or neglected community gardens that are in need of improvement?
- Are there current policies/rules in your community that you would like to see changed?
- Are there parts of the local economy that could use enhancement?
- Are there members of the community whose assets are not being shared (such as the cultural knowledge of senior citizens)?
- Keep this list in a visible location so students can think of strategies they can use to bring improvements to their community.

Lesson 16 - COMMUNITY OPPORTUNITIES ASSESSMENT

Objectives:

Students will be able to:

1. Use local reference materials and resources to identify issues of interest.
2. Demonstrate public speaking skills.
3. Use established criteria to make a choice or decision.
4. Assess the feasibility of creating change.

Time needed: One 45-minute class

Materials: Local newspapers, community publications, Internet

Procedure

After exploring the resources, opportunities and assets of their community and after thinking of community ideals, students are now better prepared to assess ways in which they can create change in their community. This activity is a chance for students to build upon the list of opportunities they created in the "Brainstorming Community Opportunities" activity or to examine a few of them more in depth. Students should examine newspapers, news broadcasts, local publications and the Internet to find more information about areas of concern in their community. Students could create a survey, interview local experts or attend a public meeting to find out what issues other citizens want to see addressed. Comparing the assets of the students' "Fantasy Community" (see Lesson 9, p. 39) to those of their real community might highlight new resources students would like to see in their area.

At this point, students can determine if they are ready to act on one of the opportunities they have listed. If there are two or more opportunities that interest the students, the following questions can serve as criteria to decide which issue to address. Having a class vote or hearing persuasive speeches regarding each issue will allow for student ownership in the decision-making process. Also, these questions may be used to help examine the likelihood of a successful action plan:

- How does this situation affect our lives? How does it affect other people in the neighborhood?
- Are we, as students, capable of taking advantage of this opportunity to better our community?
- What assets are held within this classroom that we can use?
- What assets /resources outside of our classroom will help?
- Are the students in this class excited about this opportunity? Why does it or why does it not interest us?
- How does this issue affect the environmental, social and economic aspects of our community?

Looks Count!

Lesson 17 - CONDUCTING & COMPILING A COMMUNITY SURVEY

Objectives:

Students will be able to:

1. Design and conduct a survey to gather input from a variety of stakeholders on a particular community issue.
2. Create a method for tabulating survey results.
3. Display tallied responses in graphic form.
4. Compare survey responses based on respondents' ages and length of residency in the community. Suggest possible reasons why people have different values and opinions on community issues.
5. Identify stakeholders who should participate in decision-making on various community issues.

Time needed: Up to five 50-minute class periods

Materials: Survey forms (at the end of this lesson), clipboards

Procedure

Students will gain interviewing skills and discover the variety of values and opinions held by different people in the community by conducting a survey of different age groups. Once the surveys are conducted, students will tabulate and analyze the results.

Part I

1. Working in small groups, ask students to design a survey that will gather information about residents' values and opinions on a community issue of interest. Suggested survey length: 20 questions.

Note: A sample community planning survey *Shaping Our Future* is provided at the end of this lesson that includes questions in the following three categories:

- Economic development and jobs
- Natural landscape and the built environment
- Planning for the future

2. Have students share their questions on an overhead, then have the class members vote to select the twenty survey questions to use.

3. Have students practice taking the survey prior to interviewing community members. This helps to familiarize the students with the questions and to make sure that they understand each question.

4. Give students one week to survey five people in the community, one from each of the age categories.

Part I Assessment

Students receive five points for each completed survey they turn in. This greatly increases the response rate!

Part II

1. Once the surveys have been handed in, ask students to divide the completed surveys according to the age group of the respondents:
    - (Parent of) 0 to 5 years old
    - 6 to 11 years old
    - 12 to 18 years old
    - 19 to 39 years old
    - 40 to 60 years old
    - >60 years old.

Note: If you have several classes participating in this activity, have each of the classes tabulate one or two age groups.

2. Divide each class into groups of five or six students, and give each group member four surveys to tally. Tell each group to devise their own method of tabulating the 20-question survey.

Teaching Tip:
One method that works well is to assign one group member to be the tally person. A master tally sheet is set up as follows:

Question #	Strongly Agree	Agree	Disagree	Strongly Disagree	No Response
1	X				
2			X		
3					X

A manageable number of surveys for each student within a group is four. The tally person asks each of the group members to recite the response to question #1, and he/she tallies the responses on the master tally sheet. Repeat until all questions are tallied. Next double-check the responses against the tally sheet. Repeat with another set of surveys. Once all the groups finish tallying their survey questions, a final total for each age group should be calculated by adding the tally sheets together onto a class master tally sheet.

3. Discuss options for graphing the results and select the appropriate format. A bar graph works well. Remind students to label the "x" and "y" axis, and put a title on the graph. Use a different color to display the information for each age category.

4. Discuss the results of the survey. Compare survey responses based on respondents' ages and length of residency in the community. Offer possible explanations for people's different responses.

5. Identify stakeholders who should participate in decision-making on various community issues,

Part II Assessment

Evaluate whether student's bar graphs are properly constructed and properly display the survey responses. Ask students to write a paragraph discussing their findings and how this new information should be incorporated into community planning.

"Shaping Our Future" Survey of Community Residents

This survey asks residents to express their views to help guide planning and future development in their neighborhood or community.

1) I live in _____ (name of town).
OR
I don't live in town, but the closest town from my home is: _____.

(2) I have lived in _____ County for:
□ 0-5 years □ 5-10 years □ 10-30 years
□ >30 years

Choose the age category that best describes you:
□ Parent of child < 5 years □ 6-11 years □ 12-18 years
□ 19-39 years □ 40-60 years □ Over 60 years

Please express how strongly you agree or disagree with the following statements.

A. **ECONOMIC DEVELOPMENT AND JOBS**	Strongly Agree	Agree	Disagree	Strongly Disagree
1. There should be little or no restriction on the type and location of development in our community.	☐	☐	☐	☐
2. The most important thing in our community is to create more jobs to stimulate the economy and attract more people.	☐	☐	☐	☐
3. Franchise stores and restaurants benefit the area by creating jobs and providing more choices.	☐	☐	☐	☐
4. Franchise stores and restaurants may hurt the area by taking business away from existing stores.	☐	☐	☐	☐

	Strongly Agree	Agree	Disagree	Strongly Disagree
5. Property owners should have absolute and final say about what happens on their property.	☐	☐	☐	☐
6. We need to balance private property rights with what will benefit the community overall.	☐	☐	☐	☐
B. NATURAL AND CULTURAL CHARACTER	☐	☐	☐	☐
7. The natural environment and scenic beauty of this area are important to our quality of life.	☐	☐	☐	☐
8. The design and appearance of new buildings ***is not*** important to the community or tourists.	☐	☐	☐	☐
9. New development is acceptable ***only*** if it blends with the historic character of the surrounding area.	☐	☐	☐	☐
10. Uncluttered views of natural features, such as forests, lakes, open ridges, and farmland, help to make our area an attractive place to live.	☐	☐	☐	☐
11. More public parks and recreational areas are needed in our community. If yes, what kind:	☐	☐	☐	☐
12. The positive benefits of large business signs and billboards outweighs their negative impact on the visual appearance of our area.	☐	☐	☐	☐
13. We have enough public access to waterfront areas.	☐	☐	☐	☐
C. PLANNING FOR THE FUTURE	☐	☐	☐	☐
14. I feel that I have a voice in shaping the future of my community.	☐	☐	☐	☐

	Strongly Agree	Agree	Disagree	Strongly Disagree
15. Citizens and government officials should work together to develop a long-range plan to manage growth, protect community character and natural resources, and ensure the future livability of our community.	☐	☐	☐	☐
16. Laws and regulations passed by local governments should not be allowed to limit the rights of developers and private property owners.	☐	☐	☐	☐
17. This community has changed for the better over the past several years. Explain:	☐	☐	☐	☐
18. Our area has adequate public transportation services available to meet everyone's needs.	☐	☐	☐	☐
19. There are plenty of sidewalks and bike paths to allow students and people without cars to safely walk or bike to schools, stores, libraries, and other places in the community.	☐	☐	☐	☐
20. Our community takes pride in its visual appearance.	☐	☐	☐	☐

Additional comments:

Thank you!

The results of this survey will be compiled by students as part of their unit on community planning.

This survey was conducted by: (*Student's name)* _____

Date: _____

Lesson 18 - Sharing with the Community

Objectives:

Students will be able to:

1. Compare and contrast their neighborhood study site with other neighborhoods in the community.
2. Give examples of community design elements.
3. List three recommendations to enhance the neighborhood.
4. Organize data onto a poster board, *PowerPoint*, or other format.
5. Present a final project to the community (via website, open house, meeting of city or county decision-makers, etc.).

Time needed: Two or more 50-minute class periods
Materials: Photos, maps, Power Point, poster board

Procedure

This lesson provides an opportunity for students to summarize what they have learned about their community, and specifically their neighborhood study site, and put it into a format that they can present or display to the community.

1. Working in their 'neighborhood' teams, students design a poster or *PowerPoint* presentation that describes their assigned neighborhood. Components may include:
   a. Photos of the neighborhood depicting the streetscape, individual buildings, features of the neighborhood that they like and dislike, the neighborhood's landscape setting, etc. (Lesson 12– Neighborhood View Teams).
   b. A map of the neighborhood showing its location within the overall community (Lesson 12 - Neighborhood View Teams).
   c. Results of their community survey (Lesson 17 – Conducting and Compiling a Community Survey).

d. Their sketch and written paragraph describing what they would do to enhance their neighborhood (Lesson 13 – What Do You Want Your Community to Look Like?).

e. Brochure that presents the attractive aspects of the neighborhood (Lesson 14 – Here's What's Great About My Community).

Title, captions (for parts a-e above), along with team members' names.

2. Once the posters or *PowerPoint* presentations are complete, students will develop an outline for an oral presentation and practice their public speaking skills. The presentation should include the appropriate information for the neighborhood described in the lesson objectives #1-3 above. Students' presentations should demonstrate overall comprehension of the main ideas of the unit.

SAMPLE PRESENTATION OUTLINE:

- Show the location of your neighborhood on a map of your city.
- Show the original photo of your neighborhood. Describe your neighborhood and any unique characteristics. Compare and contrast your neighborhood with other neighborhoods in the community. Address at least three of the following community design elements: architectural style, landscaping, signage, lighting, parking, compatibility of building designs, natural features in the neighborhood.
- Present the community survey findings.
- Show the sketch and describe the changes that the team made, and why these changes were made. Suggest at least three recommendations to enhance the neighborhood.
- In the closing comments, summarize what the team learned and thank the audience for coming and listening to the presentation.

*Allow two class periods for instruction on how to present information to the public, and to practice presentations in front of the class. This is a team effort and all students need to be involved in the public presentation process, i.e. each team member must present one part of the team's presentation.

3. Instruct the students on the appropriate delivery of information, such as:

- maintain eye contact with the audience,
- proper stance,
- present material in a serious manner,
- clear speech - speak loudly and not too fast, point to parts of the poster as it is being discussed.

Assessment

Use the rubrics on the next page to assess the oral presentation and the poster. The oral presentations may be graded during class time or during the public presentation.

ORAL PRESENTATION ASSESSMENT for: _____

COMPREHENSION: Understands assignment; each group speaks for 5-8 minutes

0 2 4 6 8 10

ELOCUTION: Clear speech, loudness of voice.

0 1 2 3 4 5

DELIVERY: Eye contact; stance; serious about the subject matter.

0 1 2 3 4 5

CLOSING: Summarizes the project.

0 1 2 3 4 5

COMMENTS: _____

_____

TOTAL SCORE (25 points possible)**:** _____

POSTER DISPLAY ASSESSMENT **GROUP #**_____

NAMES: _____ _____

_____ _____

	POINTS	**COMMENTS**
Neatness/quality of work…….	_____ 20	_____
Community survey……. ...	_____ 10	_____
Map……	_____ 10	_____
Sketch……	_____ 10	_____
Photo ……..	_____ 10	_____
Captions……	_____ 10	_____
Title……	_____ 10	_____
Team members' names.. ……...…	_____ 10	_____
Paragraph description……..…	_____ 10	_____
Total Points	_____ **/ 100**	

NEEDS AND OPPORTUNITITES ASSESSMENT

INTRODUCTION - Tools

There are a variety of tools that can assist teachers in the process of conducting a needs and opportunities assessment. Survey forms in previous lessons and tools such as the *Community Video* program described previously can help students determine community values and activities for citizen participation in to move the community towards reaching its goals. In addition, examining public documents, such as comprehensive plans, which often contain a section on citizen participation is yet another way that students can be invited into the community arena. Serving as a valued resource for the community is the central theme to conducting community-based projects

This section includes:

- An activity guide that provides a step-by-step guide to engaging students in their communities through surveys.
- Sample Questionnaire (Creating Community Goals for Sustainability. Deciding What is Important) to help identify community goals that can be used in the selection of projects.
- Problem Identification Form and Analysis Form is included in this section to provide more options in the needs assessment process.
- Educators Need Form for teachers who may want to conduct their own educational needs assessment. This form may help to identify the educational needs that should be considered when getting ready to involve students in a community project.

As in any materials included in this manual you may need to make modifications that fit your own situation and setting.

As you embark on engaging students in community-based education you may want to do so within an organized methodology. To make your efforts a more organized and well thought out process it sometimes helps to have an organizing structure in which to operate. The forms provided in this section will assist you in this process.

Community Survey Activities

Activity 1 - The Importance of Surveys

Objectives:

Students will be able to:

- Describe some of the characteristics of surveys used by scientists and other experts to gather information
- List the purpose, targeted population and method of survey to be conducted by their group

Time needed: Up to 40-minute class period

Materials: None

Conducting a survey is one way that people gather information about the characteristics, beliefs and habits of others who share the community. Surveys are an important tool used by scientists and other experts to collect information, including both facts and opinions. Surveys are usually quicker than conducting an interview, so feedback from many different people can be easily collected. Since it is not possible to find out how an entire community feels or behaves, surveys done well represent how others will respond based on the small sample group. Surveys can be delivered orally, such as in person or over the phone. They also can be delivered in a written format, such as in a letter or electronically.

Procedure

Students involved in a community-based project may use a survey to find out something about the community that is not already known. With this information, it is easier to make community decisions or effect change in an area of interest. Examples may include how students spend money in the community, whether or not citizens eat fish from a contaminated river or the percent of time middle school students spend in a local park. Discuss this idea with the class and ask students to think of one characteristic about their community for which they would like more information.

Part I Hand out copies of **Handout 1a**, directing students to work independently or in pairs. The handout asks students to identify:

- a reason to conduct a hypothetical survey.
- the appropriate method for asking questions.
- the population targeted.

Part II You are now ready to select and discuss your specific survey topic. After the students complete **Handout 1a**, encourage them to think about the same questions in relation to the community research question to be addressed by the class. With the entire class, brainstorm answers to the following questions and record the responses on an overhead or easel paper:

- What is the population we will target?
- How will we administer our surveys?
- How much time do we have to complete the surveys?
- Why are we using a survey as a tool?
- What information will we have after we complete this survey?

Remember, it is important for students to understand the importance of the population sampled when using surveys. For example, if students only distribute a survey to fellow classmates, the results can't be generalized to represent the feelings of the entire community. Also, the number of participants involved is critical to discuss as well. The more people surveyed, the closer the results will reflect the population sampled. Now that the answers have been explored as a large group, you are ready to think about specific survey questions! Move on to **Activity 2** for help with this step.

Activity 1: Handout #1

Conducting a survey is one way that we can gather information about the characteristics, beliefs and habits of other people who share our community. Surveys are an important tool used by scientists and other experts to collect information, including both facts and opinions. Think of something that you would like to know, such as:

- What is the top environmental concern in your community?
- How many people use the city parks?
- How is land used in your community?

1. List one thing you would like to know about your community that a survey could help you find out.

   _____

2. Who would you ask to find out this information?

   _____

3. How many people would you ask to complete your survey?

   _____

4. How would you distribute your survey questions? Door-to-door? Over the phone? In a letter? Another way?

   _____

5. After asking the people you survey, would you know how everyone in the community feels? Explain.

   _____

   _____

6. Instead of using a survey, is there another way you could find out this information? Would this method take more or less time?

   _____

   _____

7. What could you do with the information that you find out about this issue? Who might be interested in your findings?

   _____

   _____

Activity 2 - Writing Survey Questions

Objectives:

Students will be able to:

- Identify three characteristics of successful survey questions
- Demonstrate the ability to brainstorm effectively

Time needed: Up to 60-minute class period

Materials: None

Writing survey questions that successfully get the information one is looking for can be a difficult and complex task. However, keeping a few pointers in mind when writing your survey questions will facilitate the process of collecting data. How the survey questions are designed will determine what information you will have at the end of the data collection process, and what kinds of claims can be made based on this data. Remember that you will be writing the questions as well as the answers for participants to choose from.

A few characteristics to keep in mind include:

- Write simple but clear questions: ask only one question at a time and use simple language.
- Keep it short. Ten minutes is the recommended length for a survey; make it longer only if the respondent has an incentive to complete the survey (grade, coupon, etc.)
- Provide clear answers. Decide whether you will use open- ended questions, a yes/no format or a "numbered" scale to gauge responses (i.e., strongly agree, agree, disagree, strongly disagree).
- You can group possible answers only if you don't need exact numbers. For example, providing participants' age ranges (10-15, 16-21, 22 and over) will simplify the process, though it means that you will not know exactly how many respondents were 18 years old. If you ask for exact answers, data can always be grouped when reporting or graphing.
- Include on the survey a way to track who is responding (age, gender, county of residence, etc.). Remember to discuss with your students who your target participants are and different strategies for conducting surveys (on the phone, in person, etc).

Procedure:

1. Have a discussion to review or explain the following:
    a. the type of information desired (i.e. the focus of the survey)
    b. the target population
    c. how your survey will be delivered

2. Keep the overall focus of the included in the class survey. Record ideas on an overhead or easel paper.

3. Explain how to write good questions (using the Activity 2: **Overhead** provided on the next page), discussing the major characteristics to keep in mind.

4. Select a question topic and provide the students with two to three different ways to write or phrase the question. An example follows below and on the following overhead page.

Question #1: Do you believe that it is safe to eat fish from our local waterway?
Yes/No

Question #2: I think that fish from our local water are safe to eat.
Strongly Agree/ Agree/Neutral/ Disagree/ Strongly Disagree

5. Hand out *Activity 2: Handout #1.* Have pairs of students write a question topic down on their worksheet (or assign a topic to each pair) and explore two to three ways to ask a question (and related answers) about a topic.

6. When finished, have student pairs share their questions with the class, then have students vote on the most useful phrasing of a question for each topic. Record the number of votes.

7. Combine these best efforts into a draft version of the survey. Allow the community partner and yourself to revise the draft, adjusting phrasing of questions if needed.

Activity 2: Extension

Students should take a copy of the draft survey home for homework and ask someone unfamiliar with the survey to complete it. The students' assignment is to time how long it takes for this person to finish the survey and to record any difficulties this person has with the survey questions. Averaging all the recorded times will give a general idea of how long the survey should take to complete. Allow students to share their notes on parts of the survey others found difficult and make changes accordingly.

Name _____

Activity 2: Handout #1

We will now get to write, then vote on, specific phrasing to use for our class survey questions.

Topic: _____ # of Votes

Two or three ways to write a question and possible answers for this topic:

1 Q:_____

A:_____

2 Q:_____

A:_____

3 Q:_____

A:_____

Topic: _____

# of Votes

Two or three ways to write a question and possible answers for this topic:

1 Q:_____

A:_____

2 Q:_____

A:_____

3 Q:_____

A:_____

Activity 2: Overhead

Writing good questions for a survey can be a tough job! Even if you do know exactly what information you are interested in, asking the questions in a way that can be easily interpreted may take some practice. Some points to keep in mind include:

1. **Keep it simple!**
   a. Confusing example: What are colors of cars in which you have ridden in the past?
   b. Good example: What color is your car?

2. **Get them to give you a clear and simple answer!**
   a. Confusing example: Tell us what you think about our drinking water:_____
   a. Good example: I think the water in our community is safe to drink.
      Strongly Agree / Agree / Neutral / Disagree / Strongly Disagree

3. **Write questions whose answers can be easily graphed!**
   a. Confusing example: For what purpose do you use a computer?
   b. Good example: Do you use a computer to do homework?
      Yes / No

Example of different ways to write a question:

Question #1: Do you believe that it is safe to eat fish from our local waterway?

Yes/No

Question #2: I think that fish from our local water are safe to eat.

Strongly Agree/ Agree Neutral/ Disagree/ Strongly Disagree

Question # 3: I think that eating fish from our local water is:

Very safe / somewhat safe / somewhat unsafe / very unsafe

Activity 3 - Creating an Introduction Explaining the Survey to Participants

Objectives:

Students will be able to:

- Recognize target audience
- Develop introduction to survey
- Public speaking benchmarks

Time Required: 45 minutes, plus additional time to administer survey (depending on survey length and number of respondents)

Materials: None

After the questions for a survey are written, a few important steps to consider remain before approaching people to complete your survey. During this activity students will create an explanatory introduction to the survey, and then practice with delivery. Encourage the students through discussion to keep the following in mind:

- Completing a survey is voluntary and you are *asking* people to participate.
- It is necessary to think about who your intended audience is.
- Where will you be accessing these people?
- How long will it take to complete the survey?
- How will you record responses (create a form or use a tape recorder)?
- Will you offer "incentives" to encourage people to complete the survey?

Procedure

Give students a copy of the survey questions that the group has drafted, or look at them on an overhead. Tell students they will each be writing an introduction to the survey, to tell possible participants who the students are, what the survey is about and why they should invest their time in completing this survey. Students will use copies of Activity 3: ***Handout #1*** to record their written introduction. However, review the following points with students before giving the written assignment:

- If using a written survey, everyone involved needs to keep track of how many are given out (mailed or sent home at school) and how many are returned. The percent of how many were returned is called your "return rate." People hearing of your survey results may want to know this percent, which is not generally very high (55% is good).
- If using an oral survey, remember to record the time, place, age and gender of each survey participant. Make a recording form for this, or incorporate these questions into the survey.
- Students should only administer their survey in a safe environment, within sight of a trusted adult.
- If using a tape recorder, ask respondents' permission to record the conversation.

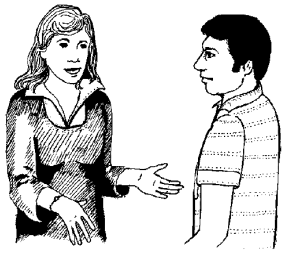
Ask students to think of a time they have completed a survey or watched another person doing so. Ask them to consider what information they would want to know before participating. Then, ask them to complete Activity 3: ***Handout #1*** individually or in groups. After writing their introduction paragraph, ask students to pair up to time how long it takes them to recite this introduction (as well as the survey questions themselves, if necessary). Reconvene as a large group to see how close the students' times were and to assure they are within the amount of time the group had in mind for the survey. After assuring that students' written introductions are appropriate and complete, move onto the process of administering the survey!

Assessment

Completion of Activity 3: ***Handout #1*** can be used to gauge participation in the class. How well do the written introductions give appropriate information to respondents? Can students list the purpose of the class survey to be completed? Do the students feel ready to approach people to complete the survey?

Name_____

Activity 3: Handout #1



Approaching people to ask them to complete a survey can be intimidating at first. Writing an introduction and practicing your delivery beforehand will help you feel more comfortable and will help people understand what exactly you are trying to accomplish. Some points to keep in mind include:

1. Introduce yourself! Share the purpose of your survey and be proud of what you are doing.

2. Ask for participation! Not everybody will want to speak with you, don't be pushy.

3. Describe any incentives. Will participants help you to learn more about your community, get a free ice cream cone or receive extra credit from a teacher? If so, let them know about it.

4. Be consistent and neutral if delivered orally! Try to ask the same questions in the same way to each person.

5. Say thank you! You are asking people to give up some of their time so be sure to thank them.

Below, write a paragraph that will serve as an introduction to your survey. Be sure to include everything you want a person to know before he or she agrees to participate.

My introduction: _____

_____

_____

_____

Now, ask a classmate to time how long it takes you to deliver your introduction: ____ sec.

Activity 4 - After the Survey
Managing Survey Results

Objectives:

Students will be able to:

- Organize collected data
- Interpret results

Time Required: Will vary according to number of responses.

Materials: None

Procedure

Tallying the results: Before tallying the answers received, a tally sheet or other way of recording answers is necessary. A blank tally sheet is attached as Activity 4: ***Handout #1;*** students can also create their own paper version of a tally sheet or use spreadsheet software to record data. One easy way to create a tally sheet is to simply add lines to a paper version of the original survey, provide room to tally answers.

Here is one way to tallys:

1. Based on the number of survey questions to be analyzed, split students into working groups. Assign each group a question to analyze. Provide groups with a copy of the tally sheet, or cut the tally sheet and give each group their section only.

2. Divide the returned surveys into stacks, based on the number of groups determined above. Hand out one batch to each group. Ask students to mark each survey result that is recorded, but only once! Students will then go through each survey in their batch and record the answer to their assigned question on their tally sheet. Students within a group will need to organize themselves to accomplish this, based on the number of students in their group. Assigning specific roles should be an effective strategy.

3. After all groups are done recording the answers from their batch of surveys, ask groups

to pass the batch on to the next group. Continue recording answers and rotating survey batches until the groups again see the batch they first recorded. Next, ask students to total the number of answers they got for each possible response for their question and record this on the tally sheet in the space marked "total."

4. With the entire class, allow groups to report the "totals" for their question. Record all the totals on a master sheet or overhead.

Group Members:_____

_____

_____

Activity 4: Handout #1
Survey Tally Sheet

Use this form or create one like it to record the data you collected with your survey. Fill in the questions from the survey and each of the possible answers. Then, put a hash mark next to the appropriate response for each survey. After you record the answer to every survey, count the hash marks for each answer and put the number on the total line.

1. Question: _____

Answer options	Tally marks	Total
_____	_____	_____
_____	_____	_____
_____	_____	_____

2. Question: _____

Answer options	Tally marks	Total
_____	_____	_____
_____	_____	_____
_____	_____	_____

3. Question: _____

Answer options	Tally marks	Total
_____	_____	_____
_____	_____	_____
_____	_____	_____

Community Survey Activities

Activity 5 - Interpreting Survey Results

Objectives:
Students will be able to:

- Graph data
- Write a claim based on information from a graph

Time Required: 1 hour

Materials: None

Analyzing the survey results will allow you to make sense of all the information you gathered. How you explore the data will be determined by the type of information you want to communicate. This lesson describes several statistical methods and how to create graphs. Depending on how the group plans to share the information gathered from the survey conducted, creating graphs, charts or other visual representations might be a necessary step. For this activity, a computer with spreadsheet or graphing software may be helpful. However, many adults and students use software to create sharp-looking graphs that communicate little. Be sure to reinforce the importance of making sure the most appropriate type of graph is used to communicate the information.

Note: For this activity you will need to reserve a computer room!

Procedure

Part I: Explaining the results

After recording the totals in **Activity 4**, you are ready to explore various ways to report the results. With the students, you will determine how the information can be presented in the most meaningful way and do the appropriate calculations as a class or in small groups.

The following methods can be explained using the example provided below:
Five students were asked if they believe they should get dessert as part of their lunch.

They were given the following options:

1 = Agree
2 = Neutral
3 = Disagree

Results: 3 students said 1 (or agreed)
1 student said 2 (or neutral)
1 student said 3 (or disagreed)

- Have the students calculate the **percent** of the people who selected the different responses to their question. To calculate the percent of responses, use the total number of a certain response, divide by the total number of respondents, then multiple by 100. For example:

(1 + 1 + 1) / 5 * 100 = 60% of respondents answered "1"

Agree responses = 3, Total number = 5

- Have the students calculate the **mean**, or average number of responses to their question. To calculate the mean, sum all the responses and divide by the number of responses. For example:

(1 + 1 + 1 + 3 + 2) / 5 answers = mean of 1.6

- This function can be used for answers on a scale as well, by assigning a numeric value to each possible answer (ex: if 1=Agree, 2=Neutral and 3=Disagree, then a mean of 1.6 translates into respondents sort of agreeing but remaining somewhat neutral).

- Have the students calculate the **median**, or middle value, of the responses to their question.

- To calculate the median, line up all of the numbers in increasing order. It is the entry in the middle of the list. For example:

1 1 1 2 3

- Have the students calculate the **mode**, the most frequent value of a set, or the number that occurs most often. To calculate the mode response, count how many times each response is given. For example:

Responses: 1, 1, 1, 2, 3. Since 1 occurs more times than 2 or 3, 1 is the mode.

Use the results from these calculations to interpret what the data is saying and have the students discuss which is the most useful for their survey and purpose. At this point students may make graphs, charts or other visual representations.

Remember to analyze the demographics as well (ex: 53 % of respondents were female and the average respondent age was 42.3 years)! Knowing the demographics of the population surveyed will help to articulate who your data represents, which will impact claims that can be made on behalf of the information gathered.

Part II: Graphing the results and making claims

Ask students to use three minutes to draw a graph that communicates the following information: Students were asked if they owned a bike.

- 20 replied yes
- 10 replied no

Ask students to each draw another type of graph to show the same information, using an additional three minutes. After students have drawn two graphs, compare the types of graphs used. Discuss the appropriateness of each type (pie graph shows one variable, bar graph shows multiple variables, line graph shows change over time.

Discuss with students what makes a good graph, handing out examples if possible from the local newspaper or other sources. Be sure to touch on specific ideas such as:

- Where do we see graphs and charts?
- Why do we use them?
- What parts do all or most graphs have?

After students seem comfortable with the reasons for creating graphs, pass out copies of Activity 5:***Handout #1***. Individually or in pairs, ask students to complete the handout, creating a graph to represent one question from the information gathered during the survey process.

If using a computer to create graphs, do not try to take students through the graphing process step by step. Instead, require students' full attention (in groups if necessary) as you demonstrate the process and discuss the best way to display the data. Allow each student in the pair time to create a graph, with ample time to explore the software options. Have students save their work in the ***spreadsheet view*** and again with a different name in the ***word processing document*** or ***draw document.*** (If graphs or spreadsheets will be distributed among groups, discuss naming conventions so that all names are consistent.)

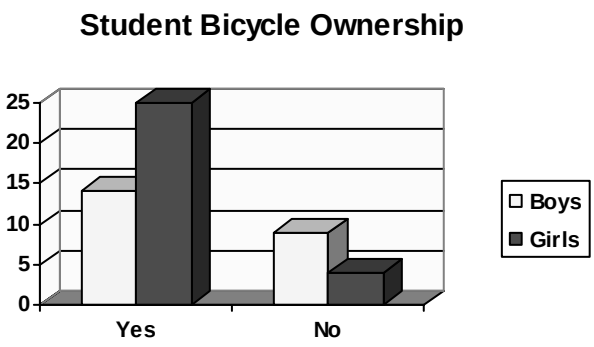
Example: Question 1 SS (spreadsheet view)
Question 1 Graph (word document)

Be sure to backup data by saving to disks and the computer.

Name: _____

Activity 5 - Handout #1

Graphs are often used as a way to visually tell others about the data you have collected. By looking at a graph, you can usually identify a number of "claims" about the information contained in the graph. Below is an example of a graph based on the results of a survey that asked students if they owned a bike. Two examples of claims the graph tells us are also listed.



Claim #1: Most students surveyed own a bike.

Claim #2: More girls than boys were surveyed.

Below, draw or paste a graph that illustrates the data found in your survey. Be sure to include all of the important pieces, such as a title and key. Below your graph, write two claims which you think your graph communicates to another person.

My graph:

Claim #1: _____

Claim #2: _____

Community Survey Activities

Activity 6 - Sharing Survey Results

Objectives:
Students will be able to:

- Present results publicly.

Time Required: Will vary depending on method of presentation.
Materials: None

Procedure

Brainstorm appropriate opportunities for sharing the findings of your community-based survey. Keep in mind who these findings will be most meaningful to and the groups involved in your suggestions for future change or action.

Some suggestions include:

- Public presentation to community groups such as neighborhood associations, special interest groups, etc.
- Writing a piece for the school or local newspaper
- Schedule a public presentation that corresponds to another event involved in or associated with the project, such as a trail opening, a community fair, etc.

Sample Questionnaire: Creating Community Goals for Sustainability

Directions: What goals do you feel we need to achieve in order for our community to be sustainable? Please give only one response per line, in no particular order. Continue on the back of this sheet if more space is needed. Thank you for your participation!

Example: Children need to learn to make smart decisions regarding the value and use of money.
Example: The river should be clean enough that we may eat fish caught from it.
Example: Our community should have more locally owned businesses.

Goal: _____

Goal: _____

Goal: _____

Goal: _____

Goal: _____

Goal: _____

Goal: _____

Goal: _____

Goal: _____

Please provide the following information about yourself to assist us in analyzing the responses.

_____male _____female

Age:

_____under 20 _____21-30 _____31-40

_____41-50 _____51-65 _____over 65

What is your annual income?

_____under $20,000 _____$21,000 to $40,000 _____$41,000 to $60,000

_____$61,000 to $80,000 _____over $80,000

How many people live in your household?

_____1-2 _____3-4 _____5-8 _____8-12 _____over 12

Of what ethnicity are you? _____

Thank you for your completing this questionnaire. Please return to:

_____

_____

A product of Center for Geography and Environmental Education,
University of Tennessee, Knoxville, Tennessee.

Problem Identification and Analysis Form

Names of group members _____

Date _____

The Problem _____

1. What is the problem that you and other people in your community think is important? Why?

   _____

   _____

2. What level of government or governmental agency is responsible for dealing with the problem?

   _____

   _____

3. What policy, if any, does government now have to deal with this problem?

   _____

   _____

   If a policy does exist, answer the following questions:

   - What are its advantages and disadvantages?_____

     _____

     _____

     _____

   - How might it be improved? _____

     _____

     _____

   - Does this policy need to be replaced? Why? _____

     _____

     _____

     _____

   - What disagreements, if any, exist in your community about this policy?

     _____

     _____

4. Where can you get more information about this problem and the positions taken by different individuals and groups?

5. Are there other problems in your community that you think might be useful for your class to study? What are they?

Educator Needs Form: School Needs

For Use With a Project Team or Community Partner in Establishing a Community Project

SCHOOL INFORMATION

School: _____ **Date:** _____

Primary Contact: _____

Discipline: _____

Mailing Address: _____

_____

E-mail Address: _____

Tel: _____

Teachers on Team	Grade(s)	Discipline(s)

Which content standards would or could be involved in a community-school project?

[ ] Reading & Writing [ ] History [ ] Geography [ ] Civics [ ] Music

[ ] Mathematics (specify areas): _____

[ ] Science (specify areas): _____

[ ] Economics [ ] Foreign Language [ ] Physical Education [ ] Visual Arts

[ ] Other _____

Which SCANS (Secretary's Commission on Addressing Necessary Skills) competencies would or could be involved in a community-school mapping project?

[ ] Resources [ ] Interpersonal [ ] Information [ ] Systems

[ ] Technology [ ] Basic Skills [ ] Thinking Skills [ ] Personal Qualities

Which units or lesson plans might easily involve the content and skills to be used? When will these be taught?

With which community organizations are you interested in exploring project possibilities?

List specific projects you know about and are interested in exploring:

What do you think about having community mentors work with students (i.e.; pros and cons)? What experience have you had working with mentors?

What resources would/could you use with students as tools to enhance their exploration and understanding of topics to be covered?

How many students and teachers might be involved in carrying out a project?

How much class time could be devoted to a school-community project ?

Will you be able to transport students to field sites or community facilities? (Explain logistics).

List the computer hardware and software resources plus other equipment that would be available for project use.

Who else in your school will be available during the school year to:

- **Provide technical support &/or training?**
- **Lead skills development training & activities?**
- **Ensure that community commitments & deadlines are met?**
- **Ensure that ongoing communication occurs among all project team members?**

Hopes:

Concerns:

Community Mapping:

DESIGNING AND CONDUCTING A COMMUNITY PROJECT

INDRODUCTION

With the background and foundation of discovery and examination of community along with the identification of various needs and opportunities present, students now are ready to take the next step.

It is time to engage your students in authentic community projects that will allow them to serve as a resource for and raise the decision-making capacity of their community. This participation as a citizen of the community needs to occur throughout their education so upon exiting their formal academic pathway they are comfortable in the various roles and responsibilities of contributing members of the community. They have "been there and done that".

The following process for conducting community projects is taken from the Community Mapping Program of The Orton Family Foundation (see appendix). Additional tools and resources have been pulled in from a variety of other sources as well. The general progression we are suggesting is:

Organizing School and Community
Planning a Community-based Project
Conducting a Community-based Project
Sharing with a Community
Evaluation and Assessment

Each of the categories above is covered, providing educators with ideas, a framework, and tools to conduct a community-based project. As in previous parts of this manual you can pick and choose those pieces that best fit your needs and setting.

Organizing School and Community

Introduction

We now begin the process of developing and designing a community project. In this section you will find:

- *(Organizing a Collaborative Project)* which describes the process and provides ideas for organizing your school and community in preparation for conducting a community project
- Flow chart that provides an overall framework to carry out a community project
- Lessons that can assist you and your students in organizing your school and the community in preparation for community projects.
- Worksheets that can help in the process of project selection.

The last form of this section is a copy of an agreement signed between a city (Seaside, OR) and an educational "broker" (Columbia Pacific Community Educational Partners). This is a good example and model for getting your project team to connect in a very intentional way to city government. Similar agreements were signed between this group and the school board. The benefits of these formal agreements are significant.

Organizing a Collaborative Project

This section assumes that you are an educator who is interested in starting one or more community projects and have completed an exploration of your community to provide the appropriate context for students. You either have a general idea of what you want to accomplish from conducting a needs or opportunity assessment and a better idea of your timeframe, or a few prospective partners in mind, but no specific project ideas. The key is to identify people in the community and academia who share common interests and then bring them together to explore possibilities.

The project organization phase can be the most creative and least restrictive process involved in undertaking a community project. This phase should focus primarily on identifying and organizing the interests of key community partners, specialists and educators who might have a stake in the issue or problem that has been identified through a needs or opportunities assessment. It should involve creating a project coordination team that can further define, assist and support the project to completion.

Consider initially assembling a cross section of interested individuals from the community and school system to discuss either a single project or a program that will have a series of projects over a longer period of time. Besides educators involved in related disciplines (English, Social Studies, and Technology), your invitation list might also include city and county managers, interested community members, business and industry representatives, appropriate government agency representatives, and of course, students. Organizations with resources that may be needed to carry out the project(s) should all be invited to participate in the initial coordination meeting and then be sent regular updates of progress, regardless of whether they actually showed up. Because community projects often depend on the guidance and leadership of a community mentor(s), it is very important to find solid candidates for this critical role early on. Not all community members relate well to students and academic settings. Hence, project coordination groups should try hard to enlist community partners who can be effective, professional mentors that have both the time and experience to work closely with the students.

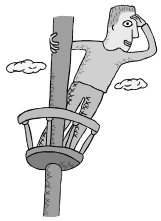
A possible course of action is as follows:

- Identify issue of interest (see needs and opportunities assessment from previous section)
- Identify coordination group
- Hold coordination meeting
    - Recruit support
    - Expand awareness
    - Identify mutual benefits
- Turn issue into project

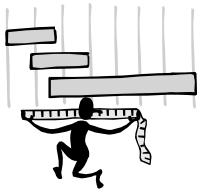
A *Basic Project Timeline* was developed to guide project teams through a chronology of steps typically involved in carrying out a successful project and to help them anticipate when various events might occur. The timeline is presented in this section as a preview of the processes to follow, as it is always helpful to have the big picture in mind when launching a new effort. Also included is a diagram illustrating an educator group's vision of how community projects relate to curriculum development

BASIC PROJECT TIMELINE

	Phase 1 Partner Readiness	Phase 2 Project Conceptualization		Phase 3 Project Design	
PHASES					
Processes	**Recruitment**	**Needs Assessment**	**Project Goals**	**Scope & Objectives**	**Planning**
Examples	ID Educators ID Community Members	Community Needs Educator Needs Shared Vision Student Interests Compatible Needs	Clear Goals Product Formats Quality & Quantity Mutual Benefits Desired Outcomes Keep it Simple	Data Needs/ Availability Survey Objectives Database Application Resource Needs/ Availability Roles Mapping Component Analytical Objectives	Timeline(s) Commitments Communication (i.e.; all levels) Teams Tasks Deadlines



Phase 4 Project Preparation & Implementation		Phase 5 Product Delivery	Phase 6 Assessment	Phase 7 Project Longevity
Preparation*	**Implementation**	**Products & Delivery**	**Assessment**	**Success**
Skills Development Design Surveys Data Collection Plan Publicity Recruit Experts	Data Collection Data Analysis Documentation (i.e.; Metadata) Interpretation Review & Edit	Oral Presentation Kiosk Video Brochure Management Plan Web Site To Printer/Production	Evaluation Appreciation	Needs Met Difference Made



Lesson 19 - BRAINSTORMING AN ACTION PLAN

Objectives:

Students will be able to:

1. Demonstrate the ability to brainstorm effectively.
2. Identify options to a course of action to address a specific community issue.
3. Formulate steps toward a specific goal.
4. Translate ideas into a written plan.

Time needed: One 45-minute class period
Materials: Large pieces of butcher paper

Procedure

In this activity, the teacher is the facilitator, providing prompts and questions for the students in order for their ideas to be recorded. It might be easiest to begin with a few large pieces of blank paper on the wall or another spot visible throughout the planning process. A few guidelines for brainstorming include:

> *This is an activity to record our first ideas and answers to questions so we will suspend the need to raise hands or talk in turn and every response will be recorded. We can then develop finished thoughts from our list.*

Students should be asked to review the outcomes of the "Community Opportunities Assessment" activity and restate the issue in their neighborhood that they have decided as a class to address. The objective of this work session is to record ideas of how the class can begin to work on the chosen issue.

The primary prompt for this activity is:

- What do our steps to address the community issue look like?

After the students have had time to provide as many ideas as they can, some prompts that will help include:

- Have other people tried to address this opportunity? How?
- Could the assets/resources we have help to create other strategies?
- What will we do in the short term and over a longer period of time?

When ideas have been collected, the class should review them and formulate a course of action. A written plan should clearly state the community issue to be addressed, the planned strategy, community partners and the following:

- What tasks are included in our plan? Who will complete each one?
- What types of support will we need (work space, supplies, money, professional help, permission from the school, transportation, etc.)?
- What is the timeline that we have?
- What obstacles do we foresee in our way?

Lesson 19, Brainstorming an Action Plan, is a part of Community as a Curriculum

SELECTING A COMMUNITY PROJECT FORM

It is important for students to be involved in the selection of community projects. The following tools can be used to determine the order of implementation of community projects according to project importance and resource availability.

These worksheets may be completed by individual students or by a group of people on a project team. It is helpful to have a list of possible projects that have been requested by the community available before filling out the worksheets.

The "Stoplight Importance and Resource Availability Worksheet" allows for the rating of each project. You will need to have the goals of the community projects you are considering and the resources needed to complete the project before using this worksheet. For each project, circle one number describing the project's importance towards accomplishing community goals, and one number describing the availability of resources. Average the scores of the students or groups for each project.

The "Stoplight Worksheet" will take the averages of the community projects from the previous worksheet and list them in descending order. You can now select the projects you can begin now by checking the "start" circle, check the "wait" circle for those projects you can take on later, and the "stop" circle for projects that are not important and you do not have resources to complete.

As a result of this process students and project teams can narrow down the community-based opportunities into a single project that you can begin planning.

Stoplight Importance and Resource Availability Worksheet

Project:____________________________

Combined Score: ___________________

IMPORTANCE						
LOW	1	2	3	4	5	HIGH
AVAILABILITY OF RESOURCES						
LOW	1	2	3	4	5	HIGH

Project:____________________________

Combined Score: ___________________

IMPORTANCE						
LOW	1	2	3	4	5	HIGH
AVAILABILITY OF RESOURCES						
LOW	1	2	3	4	5	HIGH

Project:____________________________

Combined Score: ___________________

IMPORTANCE						
LOW	1	2	3	4	5	HIGH
AVAILABILITY OF RESOURCES						
LOW	1	2	3	4	5	HIGH

Project:____________________________

Combined Score: ___________________

IMPORTANCE						
LOW	1	2	3	4	5	HIGH
AVAILABILITY OF RESOURCES						
LOW	1	2	3	4	5	HIGH

Project:____________________________

Combined Score: ___________________

IMPORTANCE						
LOW	1	2	3	4	5	HIGH
AVAILABILITY OF RESOURCES						
LOW	1	2	3	4	5	HIGH

Stoplight Worksheet

Project **Recommendation**

STOP

WAIT

START

Project **Recommendation**

STOP

WAIT

START

Project **Recommendation**

STOP

WAIT

START

Project **Recommendation**

STOP

WAIT

START

Project **Recommendation**

STOP

WAIT

START

Project **Recommendation**

STOP

WAIT

START

RESOLUTION #_____

A RESOLUTION OF THE CITY OF _____, _____, SUPPORTING THE DEVELOPMENT AND IMPLEMENATION OF A COMMUNITY BASED EDUCATION PLAN FOR ALL CITIZENS INCLUDING APPROPRIATE ACCESS FOR YOUNG CITIZENS

WHEREAS, we have unique human, economic, and natural assets in our local communities and the region; and

WHEREAS, involved citizens are an essential element of vibrant communities; and

WHEREAS, the best way to learn how to be an involved citizen in a democratic society is through active participation; and

WHEREAS, the _____ have developed a community education framework and can act as a facilitator to help support opportunities for the application of knowledge and skills in a local context.

NOW, THERFORE, BE IT RESOLVED BY THE _____ CITY COUNCIL THAT:

SECTION 1. The City of _____ will cooperate with education institutes to develop and implement an educational framework for all citizens to improve participation in the public processes of community.

SECTION 2. The City of _____ will partner with _____ to facilitate administratively approved access for students to participate in planned citizen-based programs that further the goals of the City, its Citizens and the Community.

SECTION 3. The steps for this program would include:

Cooperative identification of civic engagement actions.

Identification of resources, including funding, and the necessary skills and knowledge required to complete the community project.

A detailed plan that would include a timeline, deliverable products, and responsibilities of those involved.

A plan that will clarify how young citizens actions will contribute to ongoing community renewal and continued educational development.

An assessment process that measures the contributions of students, work to the community and academic development of young citizens.

PASSED by the City Council of the City of _____ on this ____day of _____, 2004.

SUBMITTED to the Mayor and approved by the Mayor on this ____ day of _____, 2004.

ATTEST:

_____ _____

City Auditor Mayor

Planning a Community-based Project

Introduction

As in the previous section there may be some overlap with this process of project development and the section in the manual on *Needs and Opportunities Assessment.* However, this section goes into greater detail on how to specifically plan to conduct the project and provides tables and flow charts to help in completing this step.

At the end of this section is a form from NCSR that was part of an earlier manual. This form is just one more tool that can be used to connect the project to the knowledge, skills, and attitudes you hope to have students achieve.

Planning a Community-based Project

The Planning phase is generally the most crucial part of carrying out a community project because this is when goals are set and products are defined. This phase can happen as part of the Organizing School and Community phase or separately if an appropriate group is ready to tackle a specific issue or topic. If compelling needs are not clearly articulated at the outset, the project may not ultimately address the right academic and community goals. If the goals and products turn out to be too ambitious, the project will fail to meet expectations. In this section we will examine a number of ways to define realistic scopes of work for projects, with the common objective of keeping projects small and simple.

Readiness and Commitment

The Planning phase involves collecting a lot of initial information to help assess both the level of readiness to tackle a specific project and the level of commitment each partner has toward making this collaborative effort a success. See the project planning forms on the next two pages for guidance.

Project Goals Planner

RANK CODE	GOAL DESCRIPTION	CONTENT STANDARDS & DISCIPLINES OR COMMUNITY NEED

RANK CODES: R = Requisite M = Medium O = Optional
H = High L = Low __= _____

Project Product Planner

Purpose: To envision the types of products that meet the needs of both school and community partners.

PRODUCT	AUDIENCE	NOTES

Keep Projects Small and Simple!!

Project Resource Planner

Purpose: To identify the resources a project team can access, to locate resource providers, and to assign responsibility for contacting resource providers. This assumes all key partners have agreed to explore the feasibility of carrying a project. For each project idea, consider the critical and optional resources.

Resource Description	Type Code	Quantity Available or Required	Contact Information	Person Responsible

Type Codes: B=Budget C=Cost D=Data E=Equipment L=Location M=Mentor
P=People, Experts S=Space SW=Software, T=Time TR=Training TS=Technical Support

Information Gathering

Initial information-gathering objectives are vital to the design of a viable, successful project. Community members and educators must supply the majority of details together as a team that will lay the groundwork for project planning and design. Where missing resources are identified, additional community support is often instrumental in tracking these down locally or constructing alternative or interim measures to keep an acceptable form of the project moving forward. This stage of the process may also be referred to as the, *"Who – Why – What – Where – When & How"* stage of project development and is listed below. A Roles/Tasks/Responsibilities form follows that can organize the responsibilities of the project planning team.

WHO

School contact (school, teacher, telephone, fax, address, e-mail)
Community partner/host (organization, key contact, telephone, fax, address, e-mail)
(Core) Educator team & roles
Grade(s)
Number of students
Available resources (people, equipment, data, etc.)
Mentors (if applicable): roles; number needed; expertise; when; time commitment; availability

WHY

Project background
Community needs/benefits
Disciplines & content standards

WHAT

Project description
Student assignments/deliverables (interim & final)
Student lessons, skills development, activities, & exercises
Final community products
Quality of final products

WHERE

School classrooms
Computer labs
Field site
Presentation venue

Research facility
Meeting facility

WHEN

Timeline

HOW

Approach (research, data collection & assimilation, presentation media, process documentation, etc.)
Introduction of technology
Practice technology
Presentations/public events
Web page
Student assessments (formative & summative)

Project Roles/Tasks/Responsibilities Planner

Purpose: To define the roles, tasks, and responsibilities of each member of the project team.

The relationship between the community partner and the school partner is, in effect, that of client to consultant. The community partner is "hiring" the school partner to do a job, but also providing the guidance necessary to successfully complete it. This is a new relationship for students and many teachers. The other part of the relationship is the mentoring role that the community partner plays with the students. This may be a new relationship for the partner. Discuss and clarify these roles well ahead of time – for the project as a whole and for the activities and tasks involved in carrying it out.

Project or Activity	Teachers' Roles	Students'	Mentors' Roles	Others' Roles

The Education Component

The design and scope of community projects are highly dependent on how much time educators, students, and community members feel they will have to plan and carry them out. Time commitments must be made relatively early in the project design process as these will directly affect the final nature and outcome of the project. One approach to address the time issue is to provide time for team meetings during the summer months after educators have teamed up with a community partner and they have both agreed to move forward in planning a project for the next school year.

Project team meetings can address curriculum development. Some meetings may focus on the introduction of new technology, while others deal with project management and how to build effective community-school relationships that maximize the effect on student learning, achievement and self-esteem.

During the planning phase it is important to clearly document the academic standards and goals that will be met by the community project. Documentation may take the form of listing academic standards that will be met and constructing rubrics for assessing student work. It is also paramount to keep school administrators advised of and even involved in the various phases of project development and deployment and to demonstrate how your students are meeting academic standards and goals throughout the process. Most school administrators also value the life skills and workplace experience students realize as a result of working with community mentors.

Many project teams adopt more of a client-contractor approach, in which students (the contractors) continue to refine their products until the community partner (the client) is satisfied. Otherwise, students would be able to turn in "C" work and be done with their assignment, leaving the partner's expectations quite unfulfilled and their interest in future projects quite diminished. Memorandums of understanding, official contracts or other forms of agreement will help in formalizing relationships and securing funding and equipment in return for services provided.

Teamwork

Depending on class size, it may make sense for all students to be involved in each of the identified tasks, for example: research, data collection, technology applications, and oral presentations. Another approach may have students working on specific tasks they are most passionate about, such as: conducting public surveys, doing historical research, or writing press releases as part of a publicity campaign. Encouraging students to take responsibility for

shaping their teams and then working together to accomplish a common mission can result in (the following extraordinary life lessons):

Pulling It All Together

You have gathered information, collected ideas, recruited available resources, drafted a project and curriculum plan, and weighed the pros and cons of proceeding with a well-defined scope of work for your community project. Your planning process may not have advanced in a linear or straightforward manner, but rather with multiple concerns being investigated simultaneously by different participants and sub-groups. This is an effective approach as long as everyone comes back together to assimilate all the elements into a cohesive plan.

Planning a Community-based Project

Project Description

For Use In Exploring A Community-School Partnership

Community Organization: _____

Date: _____ Contact Name: _____

Tel: _____ Mailing Address: _____

_____

E-mail Address: _____

Briefly describe the project your organization would like developed.

_____

What *question(s)* or *issue(s)* does this project address?

_____

What specific, tangible products could students help you develop?

_____

How will the products or project results be used?

DATA

[ ] Existing data is available What data? _____

_____

Where is it? _____

[ ] Data collection required What data? _____

_____

How much? _____

Special data needs/concerns: _____

_____

_____

When do you need different phases of the project completed?

Where is the project setting located?

Which disciplines would be involved?

[ ] Social/Cultural	[ ] Economics	[ ] Environmental	[ ] History
[ ] Mathematics	[ ] Life Sciences	[ ] Physical Sciences	[ ] Civics
[ ] Music	[ ] Geography	[ ] Physical Education	[ ] Reading & Writing
[ ] Visual Arts	[ ] Communications	[ ] Foreign Language	[ ] Technology
[ ] Other _____		[ ] Other_____	
[ ] Other _____		[ ] Other _____	

What are the benefits to your organization from involving students in your work?

Who will be available during the school year to:

1. Provide overall guidance & direction?
2. Work with students & teachers to identify & meet curriculum objectives through your issue/ project?
3. Develop mentoring relationships with students in the classroom & the field?

What other community resources (e.g.; people & equipment) would need to be recruited?

Hopes:

Concerns:

Return to:

PROJECT PLANNING OUTLINE

I. Program Information

A. Program Title

B. Program Mission Statement

C. Appropriate Goals

D. Objectives to Reach Goals

II. Project Information

A. Project Overview

B. Project Process

1. Public Domain

a. Community invitation - specific document or request

b. Partners

2. Information Gathering
   a. Skills required – include both community and content skills

   b. Knowledge/content standards

   c. Attitudes to be developed

3. Policy/Decision-Making
   a. Community product/participation

C. Specific Needs
1. Budget
   a. Equipment/Materials

   b. Transportation

2. Timeline

3. Approval needed
   a. Administration

   b. Staff Collaboration

   c. Parents

   d. Public Governance

Conducting a Community-based Project

Introduction

Once the school-community is organized and a community project has been planned out then it is time to carry out the project. In this section ideas are presented to assist educators in carrying out the project. Communication is the key and ideas and forms are included to help keep ongoing dialog occurring with those people in the community involved in the project.

Conducting a Community-based Project

If the implementation phase of a community project had to be characterized by one key word, it would be communication. Ongoing communication – and lots of it, at all levels – is paramount to successfully carrying out a community-based project. Communication must get off on the right foot at the beginning of project implementation, as this is often where students are first brought into the process and the commitments are cast in stone.

Communication channels must be consciously kept open throughout the project. Otherwise, you may be tempted to revert back to your old ways of doing things if you are not used to working in collaborative community-school partnerships. Many project teams have judiciously elected to have the students stay directly in touch with their community mentors, knowing that the educators and mentors would need to coach them on the expectations involved. These types of student-mentor relationships may be new to everyone, so be prepared to spend a little class time reviewing the communication plan, ideally with the project mentor and other community experts present.

Working with Community Members

Undoubtedly the most rewarding experience that students express about their community project is the opportunity to work directly with community members, particularly the primary project mentor. On the other hand, the most challenging aspect of project work for students is working with community members in general. These are skills and behaviors that need to be stressed for the students as they interact in the public domain. Expectations also need to be made clear for the community partner to operate most effectively.

Some possible guidelines for working with mentors are:

- Before calling, you should have an idea of what you need from the mentor written down.
- Mentors usually have full-time jobs, so they need advance notice of meetings
- The person you contact may not be the right mentor, so ask them if they can help you with certain tasks and, if not, who else might be able to help you.
- Mentors need to know what you expect them to do, but you should also ask them what you need to know or do before they help you tackle your task.

- Some mentors may need reminders, so it is good practice to call them the day before a meeting.
- Mentors like to feel useful and that their time is well spent, so respect their time and their desire for efficient meetings.
- Mentors like appreciation, so let them know you appreciate their time and commitment to your project.

Teachers and students may also want to develop telephone etiquette guidelines together, with the goal of practicing effective student-mentor communications from the beginning. In the end, the students will have learned much about initiating and responding to outside contacts.

Making a Team Commitment

As the community project is carried out students, teachers, and community mentors need to adhere to the responsibilities and timelines that were originally agreed upon, making necessary corrections along the way to stay on track. The mentor needs to clearly define the quality of acceptable work and become actively involved in reviewing the students' work and products throughout the project. The goal is to ensure that the mentor feels confident in the value and quality of final products developed by the students and is comfortable putting those products to use.

Feedback and evaluation are important in assessment of the project and the students involved. More information on this can be found in the section on evaluation and assessment.

Creating a Sense of Ownership

An essential goal in a community project that fully engages students is to incite a sense of ownership in the project. One method for doing this is to encourage the students to become actively involved in solving problems and determining how the project will enlighten or help others care for and appreciate their community.

When individuals' ideas are recognized, they will generally want to see their proposals materialize and will help make that happen. Another way to foster ownership is to have students who are already familiar with technology help demonstrate its capabilities or assist fellow students, acting much like a teaching assistant. Project teams can lend experienced students to lower grade levels – both the younger students and upper classmen like this arrangement and it certainly contributes to student learning on all sides. The upper classmen develop confidence, critical thinking skills, leadership skills, and professional ethics as a bonus to their academic achievement. The challenge is to guide students toward a vision without providing step-by-step instructions.

Sharing with the Community

Introduction

After completing the project the real test of a community-based project is if there is a community feedback component. This is essential if young citizens are going to be authentic contributors and resources for their community. In this way young citizens raise the awareness of the community and it's capacity to make informed decisions.

In this section ideas are presented that can be a resource for sharing information from the project with the community. Forms are included at the end that can be a guideline for the type of information that you may want to consider in developing a press release or in documenting the project.

Sharing with the Community

Products generated by students in collaboration with their project mentor will take many forms, so the best way to disseminate them will vary between projects. Whether the end product is intended to reside on an agency computer, a public web site or town hall wall, the young creators certainly need to learn to communicate their findings to their partner and the public in a coherent, relevant way. This is the ultimate test of how well the students understood their mission and how successful they were in meeting the expectations of their teachers and mentors. The community project recognizes the value of having all participants share their experiences and results with each other and with the public. The bottom line is to require that students present their projects to the public or to other groups outside their immediate project team.

At every project presentation event, opportunities should be made for acknowledging the work of all team members – students, educators and community partners – and for recognizing the special contributions of selected individuals who truly deserve to be singled out as a role model, leader, troubleshooter or risk-taker. Our experience has also impelled us to save time for the students to express their gratitude to mentors, fellow students, teachers and community specialists for their support. The students will frequently offer words of appreciation if given the opportunity.

Community projects often require students to interact with the public to either collect or disseminate information about their project. This situation can offer yet another means of creating ownership in the project by allowing students to take the initiative to design, publicize and co-lead (with their project mentor) facilitated meetings, informational meetings or dedicated surveys. Of course, educators will need to match initiatives like this with the age and capabilities of the students – the younger grades may only be capable of planning and carrying out their own final presentations, for example, and not actually organizing or leading key events. One group of high school students in Colorado formed a special task team around the publicity needs of their project and recruited a local journalist to mentor them. They had to communicate and coordinate with the other project task teams to correctly reflect the message their entire project team needed them to deliver. The guidelines below resulted from the publicity team's journey into the kingdom of public affairs.

Publicity Strategy Guidelines for Public Events

- Research other events that may be planned for the same time as early as possible (6-8 weeks in advance is not too early).
- Let others know the date and general purpose of the presentation as soon as possible.
- Decide who should be informed and invited.
- At least four weeks prior to your event, contact your reporter to coordinate the press release.

Publicity: Record or FAX your own Public Service Announcement (PSA) to a local radio station and develop flyers to distribute and post in strategic locations around the community

Another strong recommendation on sharing information beyond the "walls" of your community project is to keep the media aware of project meetings, workshops, field trips and presentations on an ongoing, consistent basis. Adult project team members should make a concerted effort to always keep the local reporters informed of opportunities to cover project activities and developments, throughout the course of the project. Reporters love to catch students working with their mentors, both in the classroom and in the field, and demonstrating their newly acquired skills to others. Many project teams elect to present their projects to city and county officials on their own – reporters will often jump to cover these events since student citizenry is a noteworthy concept. Community awareness of students' new role in shaping perspectives is definitely worth cultivating.

A recent approach has been to have participating schools and partnering organizations post representative products on their own web sites. The commitment to share results not only gives other project teams access to a valuable knowledge base, but also validates the students' work and contributions to the community.

Evaluation and Assessment

Introduction

Evaluation is the last and very critical step in carrying out a community project. However, it is the one most often ignored or overlooked. To help you measure the success of the students and of the project we have included some ideas and tools to assist in this process. There are also communication and "thank you" opportunities that need to be attended to with the community to maintain a positive atmosphere continue in the future.

These ideas and tools are:

- Evaluation and assessment provides an overview of ideas on how to wrap up a project as well as providing assessment ideas.
- A flow chart for a detailed outline of the framework for conducting a community-based project. This can be used in the evaluation and assessment of your project.
- Assessment Overview diagrams out the two categories to consider in assessment.
- Internship Evaluations are developed to assess the work of the student by the mentor and then a chance for the student to assess the effectiveness of the mentor. A GIS project is used as an example student (intern) form.
- Project Evaluation Form will allow for a more detailed assessment of the project along with a Scans Competencies checklist.
- Student Progress Report provides an opportunity to check progress throughout the project as well as a way to assess students periodically.
- Assessing the Level of Community in the Classroom is an outstanding way to assess the level at which a project or program is community-based and provide opportunity for reflection and redirection.

Without adequate evaluation of both students and projects success is difficult to measure accurately and without adequate closure community members will remain unaware of the success of the project and their role in that.

Evaluation and Assessment

Finishing community projects each year takes on special meaning regardless of whether you plan to build on your current project in future years or tackle an entirely new issue. It is a time to reflect on what you might do the same or what you may want to change next time. Evaluations and assessments can measure what was learned from the community experience as well as how you might better utilize available resources more effectively. The evaluative process can indicate whether goals and objectives have been met and what knowledge, skills, and attitudes have been acquired by the students.

This section will briefly address two levels of evaluation from the standpoint of identifying and applying lessons learned to future projects- individual student achievement and overall project success.

Individual student achievement

Educators often feel best equipped to handle substantive, formative assessment. This should be done periodically throughout the project and may take a variety of forms such as informal interviews, self assessment, group assessment, mentor assessment, journaling, final products, and even more formal exams. Scoring guides and rubrics can be developed to make this a more objective evaluation.

The project team and mentors may want to assist in the development of evaluation criteria. Group discussions could generate assessments with such questions as:

What does success look like?

Where are we on the road to success?

What do we each need to do to get to success?

What do you understand about your project?

What don't you understand?

In addition the team and mentors may want to:

- Review interim products and provide feedback to each task team and/or individual.

- Develop progress report formats that can be administered by the educators and turned in to the mentor for review, with consequences for missing deadlines (See example of a progress report for project mentors at the end of this section.).

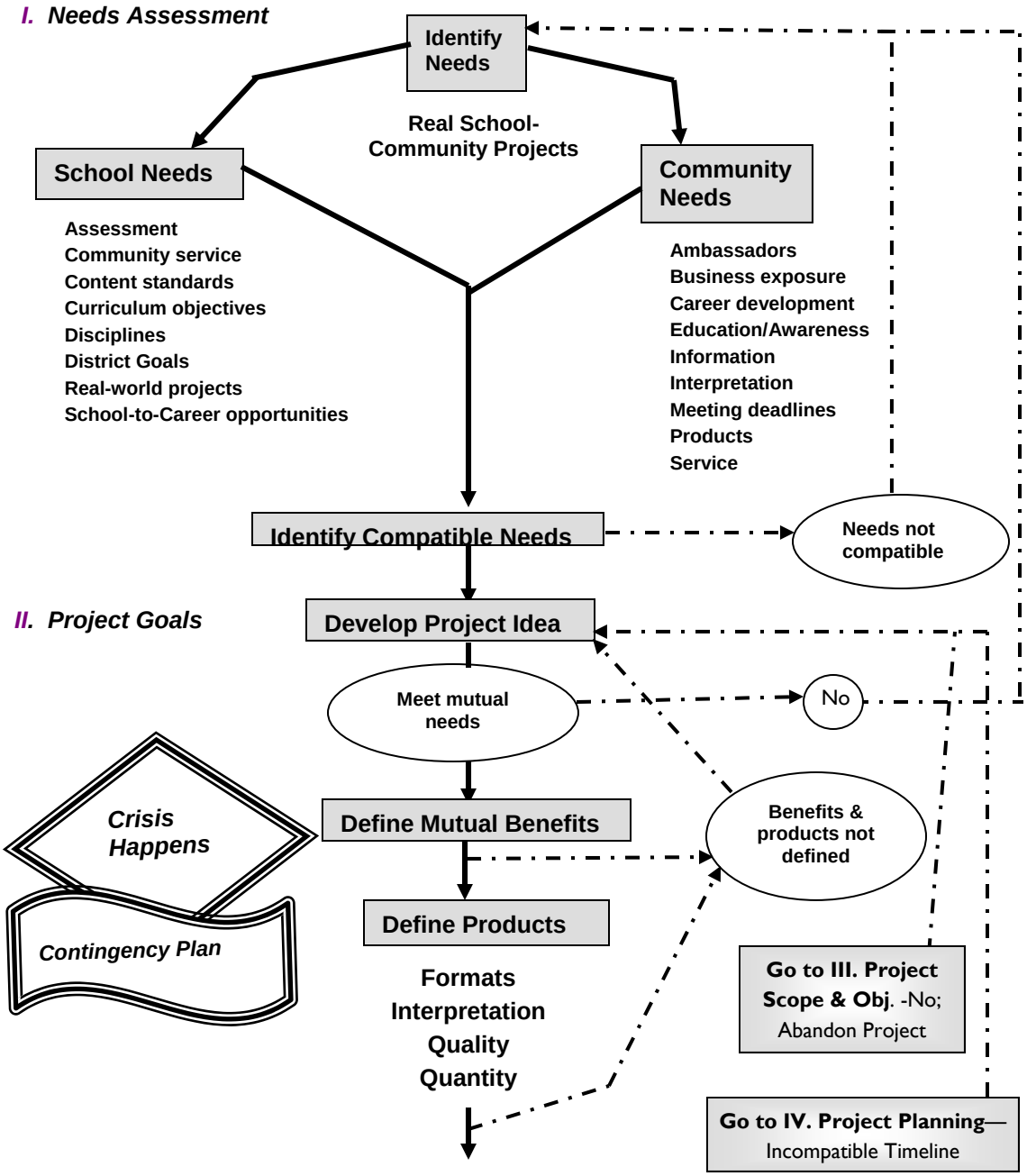
- For projects that are divided up into task teams, look for evidence of inter-task team communication and coordination; have students determine how team interactions can be improved to positively effect the integrity of the final product.

Overall Project Success

The second evaluation method involves a formal process of evaluating the overall project and not the individuals involved with the project. This can be done in any number of ways including interviewing key participants (i.e., educators and the primary project mentor) and having them fill out a standardized evaluation form. Alerting those participating at the beginning of each project that certain materials will be requested certainly allows them to plan the documentation and evaluation processes more efficiently. Generally the materials are collected and assimilated by a project team, although for single projects, the exercise is also strongly advised as a way to document your efforts and grow your program at a comfortable pace, based on timely and relevant feedback.

There are a variety of forms on the following pages that can be used as both the individual and project level for evaluation and assessment. As you conclude the project make sure that the students, educators, and community members that have been involved with the project not only receive the assessment feedback but also a very big thank you. As always students should be an important part of this process.

Community-based Project Flowchart



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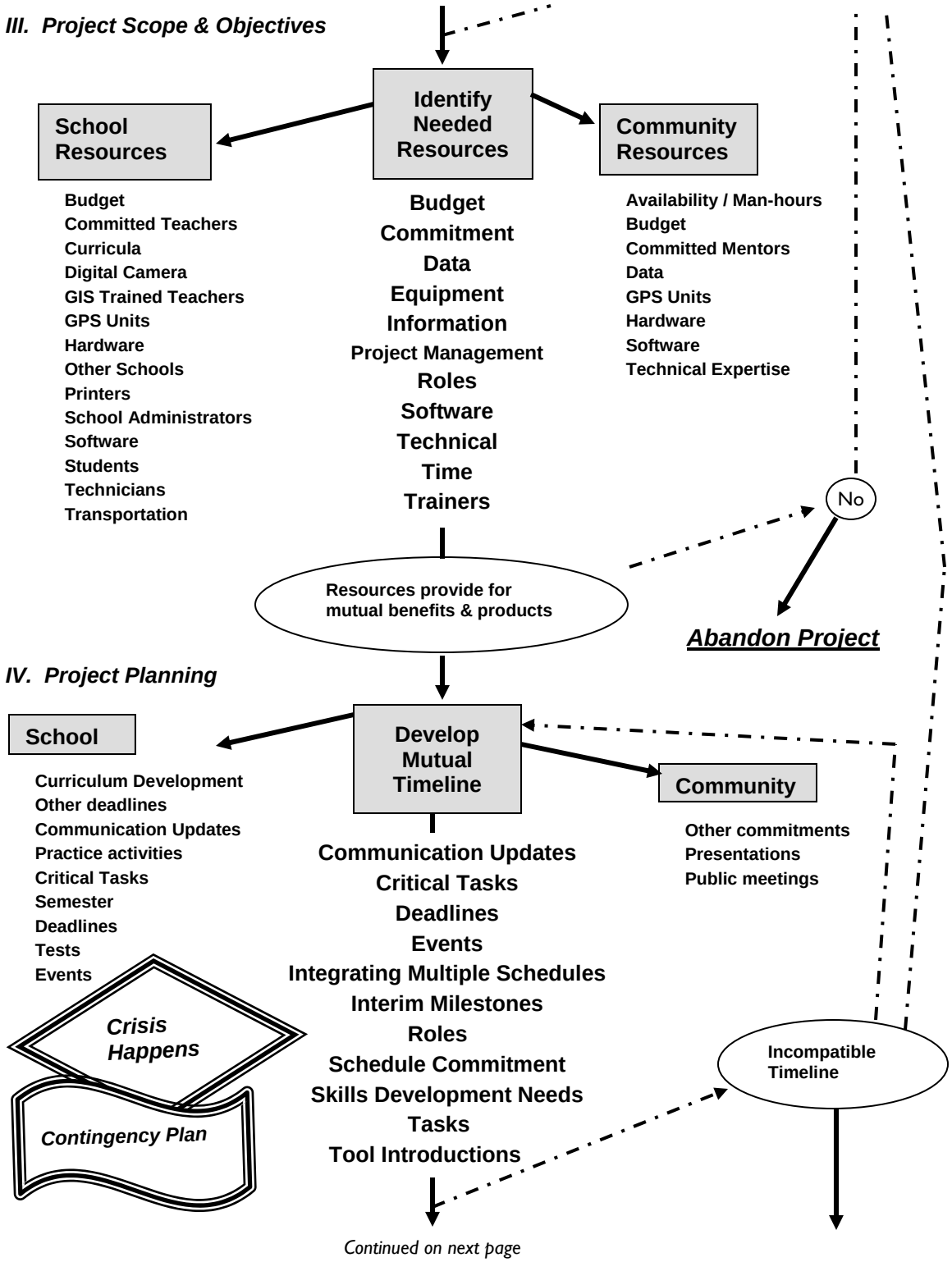
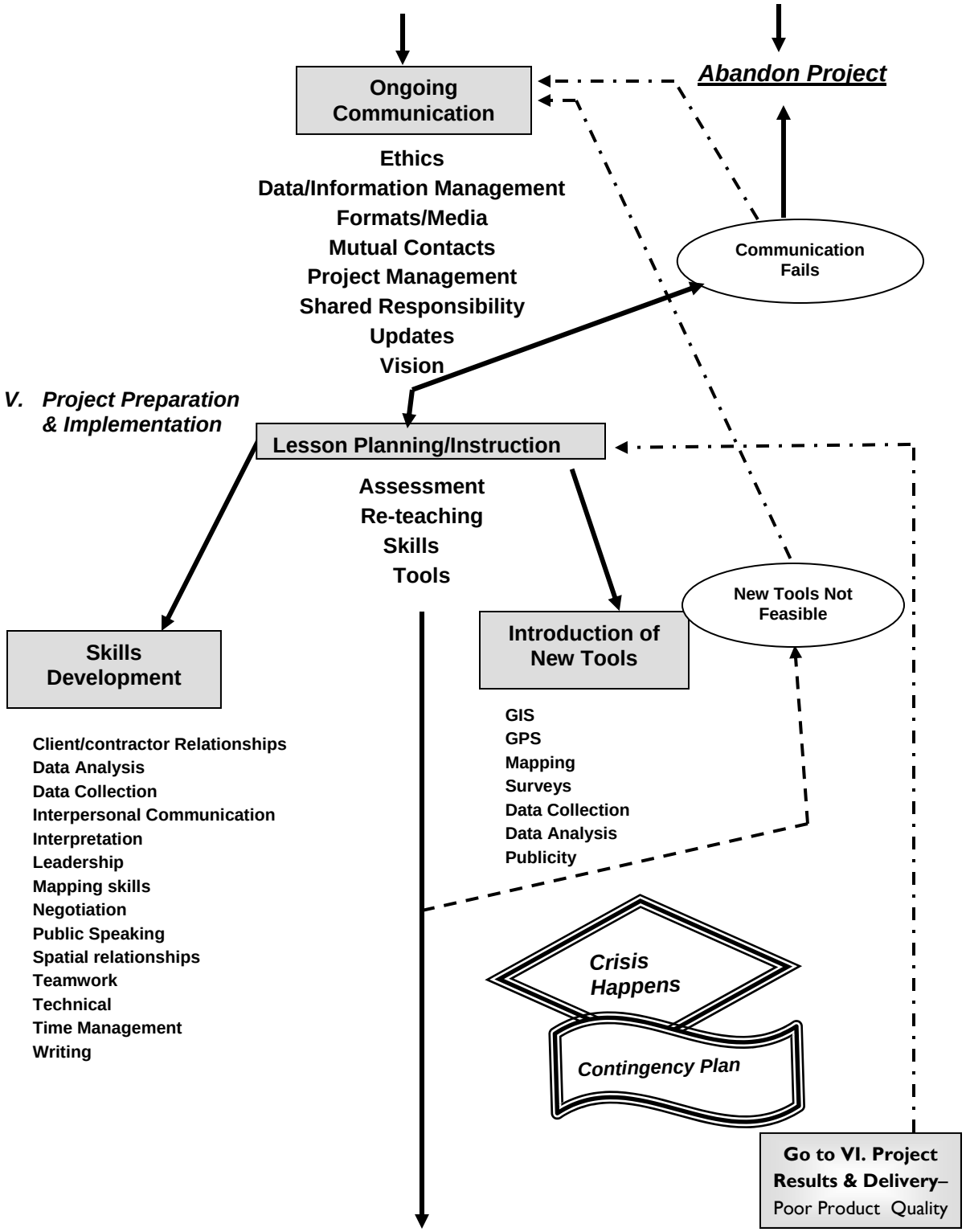
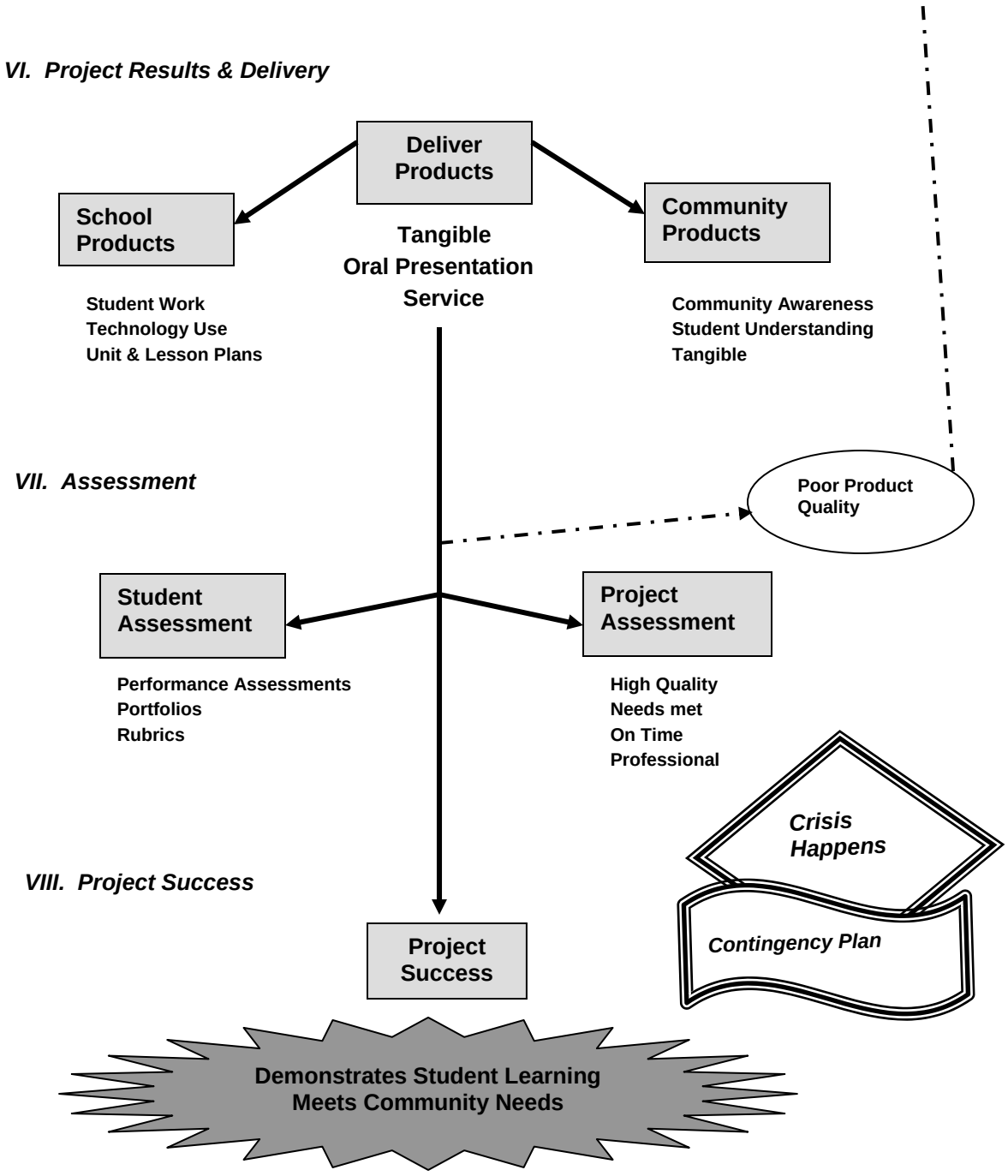

III. Project Scope & Objectives
Identify Needed Resources
School Resources
Community Resources
Budget
Committed Teachers
Curricula
Digital Camera
GIS Trained Teachers
GPS Units
Hardware
Other Schools
Printers
School Administrators
Software
Students
Technicians
Transportation
Budget
Commitment
Data
Equipment
Information
Project Management
Roles
Software
Technical
Time
Trainers
Availability / Man-hours
Budget
Committed Mentors
Data
GPS Units
Hardware
Software
Technical Expertise
No
Resources provide for mutual benefits & products
Abandon Project
IV. Project Planning
School
Develop Mutual Timeline
Community
Curriculum Development
Other deadlines
Communication Updates
Practice activities
Critical Tasks
Semester
Deadlines
Tests
Events
Communication Updates
Critical Tasks
Deadlines
Events
Integrating Multiple Schedules
Interim Milestones
Roles
Schedule Commitment
Skills Development Needs
Tasks
Tool Introductions
Other commitments
Presentations
Public meetings
Crisis Happens
Contingency Plan
Incompatible Timeline
Continued on next page


Ongoing Communication
Abandon Project
Ethics
Data/Information Management
Formats/Media
Mutual Contacts
Project Management
Shared Responsibility
Updates
Vision
Communication Fails
V. Project Preparation & Implementation
Lesson Planning/Instruction
Assessment
Re-teaching
Skills
Tools
New Tools Not Feasible
Skills Development
Introduction of New Tools
Client/contractor Relationships
Data Analysis
Data Collection
Interpersonal Communication
Interpretation
Leadership
Mapping skills
Negotiation
Public Speaking
Spatial relationships
Teamwork
Technical
Time Management
Writing
GIS
GPS
Mapping
Surveys
Data Collection
Data Analysis
Publicity
Crisis Happens
Contingency Plan
Go to VI. Project Results & Delivery– Poor Product Quality


VI. Project Results & Delivery
Deliver Products
School Products
Community Products
Tangible
Oral Presentation
Service
Student Work
Technology Use
Unit & Lesson Plans
Community Awareness
Student Understanding
Tangible
VII. Assessment
Poor Product Quality
Student Assessment
Project Assessment
Performance Assessments
Portfolios
Rubrics
High Quality
Needs met
On Time
Professional
Crisis Happens
Contingency Plan
VIII. Project Success
Project Success
Demonstrates Student Learning
Meets Community Needs

Assessment Guide

What should be Assessed?

	Formative or Ongoing Improve Performance through Self-Assessment and Self Adjustment	**Summative** Analyses of Process and Product
Students	Carrying out the project Learning and Using Skills Academic Standards Mastered	Final Product Presentations Content Standards Mastered Carrying Out Project
Project	Review Timeline Assess Progress Assess Quality of Work Content Standards Met	Final Product Time Line Work Quality Improvements List of Needed Skills Content Standards Met

Project Formative and Summative Assessments

Project Assessments

	Assessment Opportunities	**Assessment Methods**
1. Formative 	Review Timeline Quality of Work Content Standards	Comparison Community Partner Feedback Check Lists Tests
2. Summative 	Final Product Time Line Work Quality Improvements Skills Learned	Partner Response Student Responses Reflective Comments Final Project Evaluation

1. Formative Project Assessment

	Formative Assessment Opportunities	Assessment Methods	What needs to be Changed?
Product	Timeline Quality of Work Content Standards Met	Review Progress Community Partner Feedback	Timeline? Skills Development? Methodology?

2. Summative Project Assessment

	Summative Assessment Opportunities	Assessment Methods	What needs to be changed?
Product	Final Product Time Line Work Quality Improvements List of Needed Skills Content Standards Met	Partner Response Student Responses Reflective Comments CMP Final Project Evaluation	Time Line Skills Taught Assessments Project Objectives

Sample Table for Product Evaluation:

Evaluation of the Product By Community Partner, Students, and Educators

Quality*	Excellent	Good	Acceptable	Not Acceptable
Met Needs				
On Time				
Professional				
Final Product				

*As based on agreed upon criteria and conditions.

Comments:

Internship Evaluation – Host Form

Evaluator (Host): _____ Intern: _____

Dates: From _____ To _____ Total Hours: _____

Please evaluate the student you worked with using the following scale (explanations of the SCANS areas can be found below):

1	2	3	4	NA
Very Little	Well	Better Than Than Expected	Much Better Than Expected	Not Applicable

1. How well did the student use technology:

Select Technology	**1**	**2**	**3**	**4**	**NA**
Apply appropriate Technology to Task	**1**	**2**	**3**	**4**	**NA**
Maintain and Troubleshoot Equipment	**1**	**2**	**3**	**4**	**NA**

Comments:

2. How well did the student understand systems:

Understand Systems	**1**	**2**	**3**	**4**	**NA**
Monitor and Correct Performance	**1**	**2**	**3**	**4**	**NA**
Improve or Design Systems	**1**	**2**	**3**	**4**	**NA**

Comments:

3. How well did the student use the following resources:

Time	**1**	**2**	**3**	**4**	**NA**
Money	**1**	**2**	**3**	**4**	**NA**
Materials and Facilities	**1**	**2**	**3**	**4**	**NA**
Human Resources	**1**	**2**	**3**	**4**	**NA**

Comments:

4. How well did the student acquire and use information:

Acquire and Evaluate Information	**1**	**2**	**3**	**4**	**NA**
Organize and Maintain Information	**1**	**2**	**3**	**4**	**NA**
Interpret and Communicate Information	**1**	**2**	**3**	**4**	**NA**
Use Computers to Process Information	**1**	**2**	**3**	**4**	**NA**

Comments:

5. How well did the student express the following qualities:

Responsibility	**1**	**2**	**3**	**4**	**NA**
Self-esteem	**1**	**2**	**3**	**4**	**NA**
Sociability	**1**	**2**	**3**	**4**	**NA**
Self-management	**1**	**2**	**3**	**4**	**NA**
Integrity/Honesty	**1**	**2**	**3**	**4**	**NA**

Comments:

6. How well did the student work with others:

Participate as Member of Team	**1**	**2**	**3**	**4**	**NA**
Teach Others New Skills	**1**	**2**	**3**	**4**	**NA**
Serve Clients/Customers	**1**	**2**	**3**	**4**	**NA**
Exercise Leadership	**1**	**2**	**3**	**4**	**NA**
Negotiate	**1**	**2**	**3**	**4**	**NA**
Work with Diversity	**1**	**2**	**3**	**4**	**NA**

Comments:

7. What did you expect the student to gain from this internship?

8. What were the best outcomes of the internship?

9. What did not go very well with the internship?

10. Comments and suggestions for improvement:

Host/Employer Signature: _____ Date: _____

Internship Evaluation – Intern Form

Intern: _____ Host/Employer: _____

Dates: From _____ To _____ Total Hours: _____

1. As an intern I used the following GIS/ArcView® skills:
[Check the skills you used. Then indicate whether you applied existing skills (E), improved existing skills (I) or learned new skills (N) by circling the appropriate letter next to each skill.]

I used these skills:	Existing	Improved	New
__ Open a new or existing ArcView® project	E	I	N
__ Collect data using GPS	E	I	N
__ Design and/or use a data dictionary	E	I	N
__ Download/transfer data into GIS	E	I	N
__ Collect photographic data	E	I	N
__ Hotlink pictures, video clips and/or text	E	I	N
__ Create new data themes	E	I	N
__ Change theme legends	E	I	N
__ Rearrange themes in the view	E	I	N
__ Change the projection of the data	E	I	N
__ Make a line or a polygon from waypoints	E	I	N
__ Create/edit database(s)	E	I	N
__ Merge existing data with new data	E	I	N
__ Create and print layout(s)	E	I	N
__ Design custom layout legends	E	I	N
__ Create/edit data tables	E	I	N
__ Join tables	E	I	N
__ Use the Query Builder	E	I	N
__ Select & zoom to specific records	E	I	N
__ Use ArcView® Geoprocessing features for clipping, merging or intersecting themes	E	I	N
__ Create buffers	E	I	N
__ Teach others how to do new GIS skills	E	I	N
__ Use Spatial Analyst, 3D Analyst or other ArcView® extensions	E	I	N

Other new GIS/GPS skills I learned: _____

_____

Use this scale to answer the next two questions. Explanations can be found at the end.

1	2	3	4	NA
Very Little	Well	Better Than Than Expected	Much Better Than Expected	Not Applicable

2. How much did your internship help you express or develop the following qualities?

Responsibility	**1**	**2**	**3**	**4**	**NA**
Self-esteem	**1**	**2**	**3**	**4**	**NA**
Sociability	**1**	**2**	**3**	**4**	**NA**
Self-management	**1**	**2**	**3**	**4**	**NA**
Integrity/Honesty	**1**	**2**	**3**	**4**	**NA**

Comments:

3. How well did you work with others?

Participate as Member of Team	**1**	**2**	**3**	**4**	**NA**
Teach Others New Skills	**1**	**2**	**3**	**4**	**NA**
Serve Clients/Customers	**1**	**2**	**3**	**4**	**NA**
Exercise Leadership	**1**	**2**	**3**	**4**	**NA**
Negotiate	**1**	**2**	**3**	**4**	**NA**
Work with Diversity	**1**	**2**	**3**	**4**	**NA**

Comments:

4. **Rate your employer and internship in the following areas using the criteria listed below:**

	Not Enough	Just Right	Too Much
Employer was supportive	NE	JR	TM
Employer was pleasant	NE	JR	TM
Employer gave good instructions	NE	JR	TM
Employer clarified instructions	NE	JR	TM
Employer's expectations were	NE	JR	TM
Employer was demanding	NE	JR	TM

Adequate resources were available to complete the job:

Time	NE	JR	TM
Equipment	NE	JR	TM
Committed people	NE	JR	TM
Technology	NE	JR	TM
Space	NE	JR	TM

	Not Enough	Just Right	Too Much
Feedback was timely	NE	JR	TM
Feedback was constructive	NE	JR	TM
I had a flexible schedule	NE	JR	TM
I had a variety of tasks	NE	JR	TM

Comments:

5. Questions about your knowledge and experience:

How would you rate your GIS skills before the internship?	Low	Medium	High
How would you rate your GIS skills AFTER the internship?	Low	Medium	High
Had you worked any place before you interned?	Y	N	

If yes, where? _____

Comments:

6. What did you expect to gain from this internship?

7. What were the best outcomes of the internship?

8. What did not go very well with the internship?

9. Comments and suggestions for improving the internship experience:

Intern Signature: _____ Date: _____

Please return to:

Student Progress Report Samples

DIRECTIONS: Please complete one report per group. Attach your communication log to the back. This report will be submitted to _____ on _____ .
Please make a copy for your group's records before you submit this report.

NOTE: *Groups who do not submit this report may not receive a passing grade for the project.*

Interest Area: _____

Subgroup: _____

Subgroup Members: _____

_____

Mentor(s): _____

1. Summarize the work your group has done since your last progress report.

2. With which other subgroups have you worked?

3. What is your timeline for the completion of this work? *(Make sure it fits the due dates!)*

4. What support do you need from your mentor? What is your specific plan to get this support?

5. What support do you need from your interest area teacher? What is your plan to get this support?

6. How is the project going for your group at this time? What complaints or kudos do you have? What can be done to resolve your complaints?

Final Project Evaluation

Please answer the following questions and be as specific as possible. Your comments, ideas, and suggestions will be very helpful in planning future projects.

Project Name: _____

Teacher Name(s): _____

Date: _____

School: _____ Grade(s) Involved: _____

Class(es)/Disciplines Involved: _____

No. of Students: _____

Project Duration: From (mo/yr) _____To (mo/yr) _____

Approximate Total Hours:

Classroom _____ Field _____ Other _____

Primary Community Partner:

_____

Primary Community Mentor Name(s):

_____

Other Community Partners:

_____

_____

_____

Project Description:

Where ranking is requested, please refer to this scale:

1	2	3	4	5
Not At All	Very Little	Yes	More Than Than Expected	Much More Than Expected

1. Did the project meet your expectations?	1	2	3	4	5	
Comments:						
2. Do you feel your project met your goals?	1	2	3	4	5	(overall rating)
Mentoring Relationships	1	2	3	4	5	
Student Interests	1	2	3	4	5	
Curriculum Development	1	2	3	4	5	
Ongoing Information Sharing	1	2	3	4	5	

Comments:

3. Were the project goals relevant?	1	2	3	4	5	(overall rating)
Mentoring Relationships	1	2	3	4	5	
Student Interests	1	2	3	4	5	
Curriculum Development	1	2	3	4	5	
Ongoing Information Sharing	1	2	3	4	5	

Comments:

4. What did the students do?

How were they organized to tackle various tasks of the project?

5. What did the mentor do?

What made the student/mentor relationship most effective?

What did not go well with the student/mentor relationship?

6. What were the best academic outcomes of your project?

7. What did not go very well with your project?

What constraints posed problems, e.g.; time, budget, scheduling, equipment, etc.?

8. Comments and suggestions for improvement or avoiding specific problems:

9. What was your main incentive or motivation for deciding to undertake this project?

10. Were the following skills important for students to be successful with their community project?
(Use the rating system from the first page.)

Teamwork	1	2	3	4	5
Data Collection	1	2	3	4	5
Independent Research	1	2	3	4	5
Oral Presentation	1	2	3	4	5

What other skills did the students need to be successful?

Comments:

11. How easy was it to incorporate community projects into your curriculum?

What would make it easier?

12. What benefits, outcomes & products did the community partner realize?

How will the community partner use the products?

13. Do you think the community partner realized the benefits and outcomes they expected?

YES NO

How were the anticipated and actual benefits different? What caused the difference?

14. How much of the technological work was done by the following entities?

	Proj. Team	Partner Coord		Sch Tech Teachers	Students
Teaching skills and concepts	_____%	_____%	_____%	_____%	_____%
Project preparation	_____%	_____%	_____%	_____%	_____%
Data collection	_____%	_____%	_____%	_____%	_____%
Data analyses	_____%	_____%	_____%	_____%	_____%
Final product development	_____%	_____%	_____%	_____%	_____%

Comments:

15. From your perspective, what did your students learn by participating in a community project?

Do you think your students bought into the community partner's project objectives?

Comments:

Please attach as much of the following project documentation as possible:

[ ] Content Standards met

[ ] SCANS skills met - *(use attached checklist)*

[ ] Curriculum followed
[including teacher-developed training materials & course syllabus]

[ ] Learning Assessments Applied
[e.g.; copies or samples of all instruments used - quizzes, tests, essays, reports, performance tasks]

[ ] Project Timeline
[planned vs. actual]

[ ] Samples of students work during planning, development, & final phases
[e.g.; drafts, outlines, maps, results of data analyses, recommendations]

[ ] Testimonials

[ ] Activity logs

[ ] Student feedback

[ ] Photos

[ ] Products developed [via hard copies, CDs, photos, etc.], web site links, maps, PowerPoint slide shows, etc. *(You can arrange to deliver products separately.)*

If you do not have these, who can we contact to collect these products?

Secretary's Commission on Assessing Needed Skills

(SCANS) Competencies Checklist

SCANS Checklist	Project: _____ Educator: _____									
Resources										
Time										
Money										
Materials and Facilities										
Human Resources										
Interpersonal Skills										
Team Member										
Teaches Others										
Serves Clients										
Exercises Leadership										
Negotiates										
Works with Diversity										
Information										
Acquires and Evaluates										
Organizes and Maintains										
Interprets and Communicates										
Uses Computers to Process										
Systems										
Understands Systems										
Monitors and Corrects Performance										
Improves or Designs Systems										
Technology										
Selects Technology										
Applies Technology to Task										
Maintains and Troubleshoots Equip.										

SCANS Checklist	Project: _____ Educator: _____											
Basic Skills												
Reading												
Writing												
Arithmetic/ Mathematics												
Listening												
Speaking												
Thinking Skills												
Creative Thinking												
Decision Making												
Problem Solving												
Seeing Things in the Mind's Eye												
Knowing How to Learn												
Reasoning												
Personal Qualities												
Responsibility												
Self-esteem												
Sociability												
Self-management												
Integrity and Honesty												

Assessing the Level of Community in the Classroom

What are the key components of inquiry based community-based education activities, and how can attainment of these key skills be identified in individuals? As part of the Urband Ecosystems Project (UEP), staff members of the Center for Science Education (CSE) at Portland State University set out to answer this question as they began to work with middle school teachers participating in grant activities. Responses were collected from teachers over the course of two years. Results indicated that the set tool, a rubric, was instrumental not only in identifying key components, but also in assisting teachers in the process of self-reflection and better understanding the goals and strategies involved in community-based education.

The Community-based Education Development Continuum, C-BED, is a tool (rubric) designed to explore the development of teachers to facilitate community-based educational activities within their classrooms, schools and communities.

The C-BED:

- Establishes a base of prior knowledge in participating teachers
- Tracks professional growth and development
- Determines the effectiveness of teacher training and intervention strategies
- Provides a common vocabulary, set of goals and strategies for developing projects and partnerships among participants
- Switches emphasis among participating teachers from a focus on project development to a focus on professional development, to ensure sustainability of ideas and practices
- Provides assessment data for reports
- Communicates goals, strategies and other information to participants and other interested parties
- Helps teachers clearly see the "big picture" of community-based education

To further describe and define each rubric indicator more specific, detailed criteria and guidance have been developed by CSE. These are not yet completed, and so they have not been included in the manual. If you wish to receive these you may contact CSE.

(see information in the appendix)

COMMUNITY-BASED EDUCATION DEVELOPMENT CONTINUUM

Section 1 - Acquiring and utilizing knowledge of the local community

Knowledge of the local community

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
1a	Teacher's knowledge of community assets, challenges and systems is minimal.	Teacher's knowledge of community assets, challenges and systems is developing.	Teacher feels quite knowledgeable regarding community assets, challenges and systems.	Teacher facilitates school and community's knowledge of one another's assets, challenges and systems.

Identifying community resources

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
1b	Teacher is not sure how to find resources within the community to help identify meaningful opportunities for middle school students.	A few resources within the community have been identified with assistance from an outside facilitator.	Several resources within the local community have been discovered through attendance at neighborhood meetings and events, local newspapers, family members of students, etc.	Original contacts have contributed to growing community resource network. Teacher helps school and community stay abreast of each other's events and activities.

Community as basis for curriculum

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
1c	Activities drawing students' attention to their local community's assets, challenges and systems are minimal or have not occurred.	Activities drawing students' attention to their local community's assets, challenges and systems are textbook based or suggested by an outside facilitator.	Activities drawing students' attention to their local community's assets, challenges and systems are drawn from student input. Community themes are driving large portions of the curriculum.	Activities drawing students' attention to their local community's assets, challenges and systems are drawn from the community itself. The community ecosystem, events, and needs provide the framework for students' learning.

Section 2 - Forming partnerships within the local community

Identifying potential partners

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
2a	Teacher is not sure how to establish contact with potential community partners.	Teacher has made a few contacts within the community. Firm connections or commitments have not yet been established.	Teacher increasingly reaches out to make contacts within the local community. Ongoing relationship being established.	Teacher has established relationships and reciprocal partnerships with local businesses, community members or organizations, and shares information about potential partners with others.

Partnership development

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
2b	At this time, project activities developing without a partner in place.	Partnership initiated by external facilitator (such as UEP, AmeriCorps member or other teacher).	Partnership developed out of teacher-initiated activities or community organization.	Partnership arose out of ongoing community-school relationship. Partner is active within school and both teacher and partner view the school as valuable to community building efforts.

Student roles in partnerships

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
2c	Teacher facilitation of activities that build students' awareness of their assets and how they can benefit the community are not part of the classroom curriculum.	Activities that build students' awareness of their assets and how they can benefit community partners are becoming part of the classroom curriculum.	Activities where students identify individual and group assets as well as roles for themselves within local community partner-ships are regularly incorporated into classroom curriculum.	Students, teacher and community partner have identified their assets and how they can benefit one another. Students are active participants in the community process.

Section 3 - Working cooperatively with the local community

Project planning

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
3a	A process for planning community-based activities is not in place. Others are not included when teacher develops project ideas.	Community-education project planning is conducted at the last minute. Teacher frequently depends on outside facilitator for assistance.	Plans for community-education projects are outlined in advance, though plans often change and significant pieces are planned at the last minute. Students are becoming part of the planning process.	Process for planning community-education projects is in place and responsibilities are shared amongst teacher, students and community partner. Process is ongoing, timely and flexible.

Effective communication

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
3b	Teacher has not yet established regular contact with partner and/or community members.	Communication with partner and/or community members is sporadic. Teacher may depend on outside facilitator for maintenance of timely, effective contact.	Communication with partner and/or community members is fairly regular. Teacher listens effectively and involves students with partner communication.	Project momentum drives the need for and implementation of planned, consistent, and effective communication between student, teacher and community partner. Teacher ensures timely contact, listens effectively, and helps facilitate discussion and feedback loops.

Understanding project roles

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
3c	Teacher is currently working in isolation of community members, businesses or organizations.	Teacher is unsure how all participants (self, students and community) can contribute to and/or benefit from the project. Clear roles have not yet been established or communicated.	Teacher can explain how all participants contribute to the project team. He/she assumes a role and helps facilitate students' understanding of how all participants fit.	Teacher clearly understands and can explain all participants' roles and goals. All partners see themselves as important contributors to and benefactors of successful community-school relationships.

Section 4 - Sharing community project information and findings with others

Where community project is shared

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
4a	Teacher and students share project information within classroom.	Teacher and students share project information within their school and classroom.	Teacher and students share project information both within and outside of the school, when invited.	Teacher and students initiate and respond to requests to share project information with others, including community groups and in conference settings.

Use of technology in community projects

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
4b	Teacher has little back-ground in using technology (including data bases, spread-sheets, graphs, web pages, word processors and presentation soft-ware) to organize, analyze, and dissemi-nate project information and findings.	Teacher has some back-ground using technology (including data bases, spreadsheets, graphs, web pages, word processors and presentation software) to organize, analyze, and disseminate project information and findings.	Teacher and students use a variety of previously mentioned technological tools to organize, analyze and disseminate project information and findings.	Teacher and students create and use previously mentioned technology with confidence. Project documentation can be produced for community partner or others as needed.

INSTRUCTIONAL DEVELOPMENT

Section 5 - Organizing effective student work groups

Student arrangement

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
5	Students are arranged to facilitate time spent listening or responding to teacher-centered activities.	Students are arranged in groups in which they share materials and respond to teacher-centered activities. Information is shared between groups on occasion.	Students are arranged to increase interaction within and between groups. Activities are planned to heighten cooperation, students have clear roles for which they have received training. Teacher brings groups together for closure.	As in "transitional", plus closure activities involve group problem solving that lead to further progress in community-based activities.

Section 6 - Managing student field work

Student field work

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
6a	Teacher has little or no experience involving students in work outside of the classroom.	Teacher has some experience involving students in work outside of the classroom. Activities are primarily designed, organized and implemented by individual other than teacher.	Teacher is experienced in involving students in work outside of the classroom. Activities are primarily designed, organized and implemented by classroom teacher with student input.	Teacher collaborates with students and community partner to design, organize and implement field experiences closely tied to classroom curricula. Students have learned necessary skills and are invested in trip success.

Quality control

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
6b	Teacher manages quality of data or product by providing directions for students to follow. Students ask questions when they don't understand.	Teacher manages quality of data or product by having students learn and practice skills before using them in the classroom or field. For validation, students compare their results with a standard.	Teacher manages quality of data or product by helping students understand the criteria for ensuring accuracy of the data or product. For validation, students check one another's work.	Teacher manages quality of data or product by bringing students and partner together to determine whether student work meets partner needs. Students collaborate with community partner to validate the quality of their work.

Section 7 - Connecting project activities to ongoing curriculum

Connecting to district goals and benchmarks

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
7a	Project activities are not regularly linked to District goals or Bench-marks.	Project activities are linked to District goals or Benchmarks by teacher when request is received from administrator, project funder or other external authority.	Project activities are guided by teacher-targeted District goals and Benchmarks. Students are being drawn into identification process.	Project activities are regularly framed around District goals and Benchmarks, which can be identified by students, teachers and community partners.

Integration of subject matter

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
7b	In general, subject matter is not integrated across disciplines.	Integration of subject matter across disciplines occurs during a few project activities. An out-side facilitator's assistance with planning cross-curricular links is helpful.	Teacher integrates subject matter across disciplines on many occasions and observes that students are beginning to see how disciplines fit together to explain the world around them.	Project curriculum is being integrated across disciplines on a regular basis. Community partner is involved with helping students see interconnections within disciplines affecting their project.

Section 8 - Using inquiry with students

Lesson-type preference

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
8a	Teacher prefers using activities that he/she knows to be tried and true.	Teacher prefers using activities known to produce expected results, though variables exist that may produce some unpredictability.	Teacher prefers new activities for which he/she can practice skills and learn background information before implementation in the classroom or field.	Teacher prefers activities where he/she can learn new skills and information along with students. Teacher works with community partner to both prepare the learning environment and teach and model critical thinking and manipulative skills.

Lesson planning

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
8b	Activities are planned so that prepared directions guide students to achieve the same results and conclusions found in text, manual, or handout.	Activities are planned so that prepared questions and directions guide students toward expected results. Teacher is developing capacity for managing unexpected results.	Activities are planned so that specific topics are presented to students. Teacher models how to formulate appropriate questions and carry out open-ended investigations.	Activities are planned so that teacher and community partner engage students in explorations of new material. Teacher helps students formulate their own questions, determines their capacity to answer them, and facilitates students in carrying out their investigations.

Lesson implementation

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
8c	Teacher relies upon textbook, manual or specialist as questions or problems arise from classroom or field activities.	Teacher consults a textbook, manual or specialist while developing his or her capacity for helping students respond effectively as questions and problems arise from work in classroom or field.	Teacher determines capacity of students to acquire the inquiry skills of observing, questioning, investigating, etc., which are taught as student work progresses.	Teacher and community partner assist students in learning new inquiry skills (including collecting and interpreting information and communicating findings to others) as project develops.

Section 9 - Assessing student learning and project direction

Assessment tools used

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
9a	Assessment is addressed informally through teacher observation of student performance.	Teacher records observations of student performance for analysis. Further assessment is composed of questions with right or wrong answers or prompted responses.	Assessment tools provide students with opportunity to demonstrate key learning skills, knowledge and growth.	As in transitional, but partner, teacher and students collaborate to create assessment tools that also assess quality of project data and/or product.

Assessment strategy used

	ENTRY	DEVELOPING	TRANSITIONAL	COMMUNITY-BASED
9b	Assessments are primarily summative; results are used to determine student grades.	Assessments are primarily summative; results used to determine student grades as well as further development of student skills.	Assessment strategies determined prior to activity implementation. Teacher guides project direction based on assessment results.	Assessment provides ongoing feedback to establish project direction, further development of student skills, and partnership performance. After project activities, partners debrief to discuss results and possible modifications.

COMMUNITY-BASED PROJECT EXAMPLES

Introduction

After being given lessons, ideas, and tools to discover your community, conduct needs and opportunities assessment, and design and conduct a community project it may be helpful to see the components tied together in an example project. In this section you will be able to see how the pieces fit within a case study, called *Critter Control,* provided for you. In addition, several project summaries have been included to not only provide more examples of community projects but also to showcase the variety of community partners that can be included.

Documenting your efforts and having these type of case studies or project summaries available will increase your ability to form more partnerships in the community as well as gather support for funding for your community efforts. As the reputation of what services your students can provide spreads in your community many groups will come to you to form partnerships.

Case Study: Critter Control

The following is an activity that was used to introduce GPS and data collection techniques.

Conducting a community needs and opportunities assessment:

In the spring of 2002, a Colorado Division of Wildlife (CDOW) biologist in Hayden, Colorado, contacted The Orton Family Foundation's Community Mapping Program about the need for data on the large amount of roadkill along the stretch of Highway 40 between Steamboat Springs and Hayden, 25 miles to the west. The CDOW. explained that they did not have the time, personnel, or funding to collect data on the roadkill, but that this information would be useful to determine what might be done to address the problem.

Local public elementary school teachers Barb Paulekas, grade 2, and Laura LeBrun, grade 4, soon learned of this community need while participating in The Orton Family Foundation's Community Mapping Institute. As commuters between Steamboat Springs and Hayden, the teachers knew first-hand of the roadkill problem and were intrigued by the seeming fit between this sort of study and the life experiences of the children in their rural school district.

As a first step, the teachers scheduled a meeting with CDOW to learn more about the agency's needs. The agency expressed concern for the large number of game animals being killed along the highway (such as deer and elk) as well as other, smaller mammals (such as fox, coyote, and raccoon). They explained that accurate, in-depth roadkill data on these animals over a number of years would allow them to make informed, long-term decisions about how to reduce the number of animals being killed by motor vehicles.

As the teachers and students began their *Critter Control* project and it received statewide (and national) media attention, another agency need presented itself. The Colorado Department of Transportation (CDOT) contacted the project teachers to explain that they were also working to gather this sort of highway roadkill information. With it, they hoped to determine where best to add eco-passages (such as culverts and bridges) that would allow animals to cross roads safely, thereby maintaining the existing wildlife corridors along state highways and at the same time, making highways safer for motorists. CDOT asked that the students' data be expanded to include reptiles and amphibians, and that it be collected using Global Positioning System (GPS) units to provide better accuracy. Students and teachers made both of these data collection modifications, and their data is now being added to CDOT's statewide database.

The *Critter Control* project grew out of very real agency needs that presented themselves to The Orton Family Foundation and teachers involved in its Community Mapping Program; the needs "came to the project," versus the project having to go out and find them. Both CDOW and CDOT need accurate roadkill information, and elementary school students are providing it to them.

Choosing a project

CDOW personnel had previously experienced first-hand the value of leading community-based projects for students, and used this in suggesting the roadkill project to the Community Mapping Program. Wildlife Manager Jim Haskins' son had done similar project-based work using GPS at a nearby working ranch and nature center. "My son wasn't a straight A student," explained Jim, "but this sort of hands-on learning that included technology really clicked with him." Knowing that CDOW used GPS all the time, Jim realized the potential for his agency to partner with area schools in a "win-win" situation: Students would benefit from the sort of project-based learning that had engaged his son, and they would benefit from useful data. With this in mind, Jim contacted the Community Mapping Program about the roadkill project, which in turn suggested it to the teachers currently directing it.

The teachers chose their project because it was grounded in their rural students' experiences and they saw that it would be tangible and hands-on (even wonderfully gross!) in a way that would engage their young students. "We felt that students would really thrive on the hands-on component and in actually *being* scientists and creating something," said fourth-grade teacher Laura LeBrun. "It also seemed there would be lots of different aspects of the project that kids could latch onto." Additionally, the project was based on a genuine community need where the students could help solve a "real-life" problem. The teachers felt that their students would be concerned about animals' (and drivers') safety and motivated by the realization that they could do something to help the situation. Given the project's relevancy to students, its developmental appropriateness, and the authentic community need underlying it all, the teachers felt *Critter Control* would allow students to really dig into and "own" their project.

Designing a project

The second- and fourth-grade teachers who designed the roadkill project stressed that they "started small" by breaking the project into manageable baby steps. The two teachers began meeting in the fall of 2002 after school each Friday to brainstorm and plan a series of beginning activities for their students. They purposely kept their plan broad and open-ended. "We didn't look forward to the end and try to plan the project all at once," explained LeBrun. "We just

decided we would dig in, take one piece at a time, and see what happened. Besides, it's science, and so things aren't predictable and they're going to change all the time! We had to be willing to just go where the kids and the project took us. That's hard - especially for us teachers who like to try to plan everything out in advance."

The teachers also stressed the importance of designing their project so that students felt immediately connected to the problem at hand and could quickly get out into the field to do something about it. "The kids were really concerned about all the animals being hit and really wanted to help fix the problem," explained one of the teachers. "We just dove in and got them out into the field right away, which motivated and excited them." The students' first field outing (using GPS units to mark mile markers along the stretch of highway to be studied) wasn't just a "look and see" field trip. Instead, it had a clear agenda and purpose, and the teachers had designed a very detailed list of roles and responsibilities. Each of the 44 students had a job. Some students operated the GPS units, while others recorded the corresponding mile marker numbers or took notes on natural features and habitat. Parents and high school students helped with safety.

Teachers and students returned from this initial field trip to figure out what to do with their data and here, teachers stressed the importance of having students help with the project's design. Students brainstormed about creating a data sheet to use in recording roadkill, asking questions such as, "What kind of information should go on our data sheet?" and "How can we record it so that it's really useful to CDOW?" "I knew that my second graders could do much of this with appropriate guidance (and they did!)," said second-grade teacher Barb Paulekas. "It was important that they help design the data sheets on the computer, come up with the important information needed for those sheets, and understand the need to organize data." Students' help in designing data sheets and other project components not only provided further motivation and ownership, but was a chance to hone skills in science, math, reading, and writing - all within a meaningful, real-world context.

Finally, the teachers have continually modified and honed their project's design. "We've made on-going changes to the way it's designed," explained LeBrun, "and our project certainly wasn't completed at the end of the first year. In fact, it had really just started." In the first year of the project, teachers and students used GPS initially in order to accurately plot the highway mile markers on the maps where students recorded roadkill points. However, all actual roadkill data collection was done manually, without GPS. Each student was given a baggie containing a red pen, a computer-generated highway map with mile markers, and the data sheet they had designed. All of this was carried in their family's vehicle. In year two of the project, given CDOT's need for more accurate data, students have modified their data collection sheets to include space for recording GPS way-

points for roadkill locations to the nearest .10 of a mile. The roadkill recording kits that circulate among families' vehicles have been expanded to include a GPS unit, complete with a "cheat sheet" for parents to remind them of what they learned at a parent training on GPS conducted at the school by CDOW. Students receive ongoing "refresher" trainings in GPS so as to ensure they are using the technology properly.

Conducting a project

After several Friday planning meetings among themselves, the teachers began designating time each Friday during school to combine their classes to begin the project work. To do so, they leaned heavily on their community partners to help with background knowledge and technical training. CDOW Wildlife Manager Jim Haskins talked with students about the roadkill problem, mixing in information on native species, habitat, animals' natural history, the need to document wildlife patterns over time, and what was being done in other places to address the problem. With the help of The Orton Family Foundation staff, Jim also taught students GPS basics using scavenger hunts on the playground and other hands-on activities.

Following the first field trip to GPS the highway mile markers, The Orton Family Foundation's technical support personnel worked with teachers and students in using software to create a map on the computer where they could plot roadkill. To make the map more understandable and concrete, teachers helped students create a hand-drawn 12-foot version of the map that spanned the length of a school hallway. Students added mile marker locations and drew in physical features such as water, fencing, hillsides, and areas of thick vegetation. They recorded the location and photos of recorded roadkill on the map, and tacked to it their theories explaining the abundance of dead animals at certain spots along the highway. At the end of the school year, students presented their maps and findings to CDOW and the community at a gathering of local students and teachers involved in the Community Mapping Program.

The *Critter Control* teachers continually stressed the importance of working with a community partner who truly has the time to commit to the project. "I can see how a community partner can make or break a project," said LeBrun. "CDOW has been wonderfully involved as a partner. There is support from top management, and Jim lives nearby and is so great about coming into the classroom to work with students." This same teacher also noted the high level of student interest and motivation generated by their direct contact with an agency professional ("a real wild-life manager"). Not surprisingly, CDOW also reaps benefits beyond the actual data collected. "Our involvement with this type of project generates some good public relations benefits locally," said Jim Haskins. "The children and their parents get a different perspective on our job duties that are quite different from the enforcement role we're usually viewed in."

Finally, teachers noted that parents are a key resource in carrying out a project - especially when working with such young students. Parents have helped out on field trips and in the classroom. At certain points, up to five parents have been busy as classroom volunteers at the same time, each responsible for an activity or station for a small group of students. Teachers stressed the importance of training parents in working with students on an activity so that everyone involved feels successful.

Assessing students and the project

Students were assessed during the first year of the project in a number of ways. Whenever students were in the field with GPS units (getting waypoints for highway mile markers), they were also required to take notes on what they observed in terms of habitat, natural features, and evidence of animal activity. Students' notes were graded, as were the hypotheses statements and research papers that grew out of their observations. "The project involves so much - collecting data, observing, making hypotheses, and a lot of reading and writing *for a purpose*," explained LeBrun. "I'd say to students, 'CDOW *needs* your accurate data and they *need* to be able to read your handwriting!'" Students were also continually assessed through the large amount of writing they did based on their project experiences. "The students have written constantly about what they've seen and done," said this same teacher. "The project has sparked some really great writing in students who are otherwise hesitant, struggling writers."

Teachers also spoke of the incredible growth that was evident in students' end-of-year *Power Point* presentation to CDOW and the wider community. Students confidently answered questions about their project work, and were able to ask detailed, pointed questions about technology, natural science, and geography to students involved in other community mapping projects. In preparing for the end-of-year presentation, the *Critter Control* teachers videotaped students' speeches, which allowed students to self-assess and then improve upon their public speaking and writing skills. At the same time, students critiqued each others' work, providing yet another opportunity for them to work cooperatively and hone their social skills - development that teachers have clearly noticed and been able to continually assess along the way.

During year two of the project, teachers are working to include with their informal assessments more formal ones that are linked to science, social studies, and technology standards. As part of this effort, they are helping pilot a new set of standards-based evaluation tools developed by an independent Place-based Education Evaluation Collaborative, of which The Orton Family Foundation is a member. The tools include student pre- and post-tests, along with teacher self-assessment and reporting sheets. This evaluation data will provide teachers with a measure of students' skills pre- and post-project. It will also help The Foundation better communicate the value and efficacy of place-based education programs such as community mapping ones.

To assess the project, teachers are building in year two on what they learned during year one. "We consider that first year to have been our learning year," explained teacher Paulekas. "It was the year we set up baselines and figured out what worked and what didn't." The teachers have also received help fine-tuning their project from the large group of school personnel, agencies, community partners, and The Orton Family Foundation staff that continue to meet on a regular basis to support the project. Working with this large support team, teachers and community partners have been able to continually improve the *Critter Control* project so that it is as beneficial as possible to the students and agencies involved.

Written by Annie Richman with the help of Laura LeBrun, Barb Paulekas, Jim Haskins, Liza Graham, and Connie Knapp. *For more information on the Critter Control project and other community mapping initiatives, visit www.communitymap.org.*

Case Study: Critter Control

Critter Control Treasure Hunt

In today's field exercise, you will learn how to set "waypoints" using satellite data transmitted on a GPS unit, which stands for Global Positioning System. You will work in groups to find items related to the Critter Control Community Mapping Project that we are extending from west of Hayden to the Ferndale Picnic Area on Rabbit Ears Pass, along US Highway 40. We are excited to have you all join in the fun and importance of this study, which continues to receive lots of attention from people concerned about wildlife, safety, and issues of local, regional, and national significance.

Items related to your Critter Control Mapping Project have been scattered in the area near your school. How many of you have come across an old deerhide or skeleton while hiking in a similar grassy area? We have chosen things associated with your study, so keep your eyes peeled for 12 items, marked by numbered pink flags close to the ground. In order to map the precise location of each object, you will work in teams using the Garmin GPS 12XL units to record the waypoint (satellite data) for each object.

Follow these steps to become a *Deerly Adept Observer* (10-12 items found); a member of the *Elk Spotting Squad* (7-9 items); an honorary member of the *Critter Finder Team* (4-6 items); or a badge-bearing *Map Maker* (1-3 items). Your teachers and community partners will help you, so don't be afraid to ask questions…

Make a mark on the map close to where you think the object is. Do not remove the flag or the object. Fill in the chart, naming each point on the GPS with three digits and the flag number, for example, 003 for a skull found near a pink flag that has the number 3 on it. At the waypoint screen of your GPS unit, which should be covered with blanks, go as close to the object as possible, then: :

1. Press "mark"
2. Move to the number using the scroll button, press "enter" and put in the right flag number
3. Press "enter" to save your number
4. Move to "average" to get an accurate reading from all the satellites overhead & press "enter" again
5. Then, press "enter" to save your waypoint. TA DA! You now know how to use a GPS unit! Now look for another object… (table on next page)

Critter Control Treasure Table

Flag Number Put on the map!	***Name your way-point on the GPS unit!***	***Describe what you found***	***Field observations?***	***Describe what kind of environment are you in?***
23	**023**	Pile of elk duds	They were old and moldy, by the ditch	We found them in a grassy area near some willows
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				

Yampa Valley Community Mapping Project

A detailed CMP project description including community benefits and academic

Acid Rain Analysis – Routt County and Moffat County, Colorado

Community Partner

- **Storm Peak Laboratory**
  Melanie A. Wetzel, Ph.D.

Schools and Teachers

- **Hayden High School – Mari Mahanna**
- **Steamboat Springs Middle School – Lisa Lorenz**

Needs of Community Partner

- Collect precipitation samples from various locations in Routt and Moffat Counties.
- Measure the volume of precipitation for each collection time, the accumulated depth of snow, the wind and storm direction, the pH of the samples and the GPS coordinates for each collection location.

Value to the Community Partner

- Storm Peak Laboratory is better able to provide meaningful information to the community as a whole when the samples with which it works are numerous and varied. Having this density of samples over a broad area will enhance their findings.
- The results of studies by Storm Peak Laboratory may eventually help the community and the State of Colorado better control various sources of pollution, thus making the area a better place for residents and visitors alike.

Project Ideas

- Map the location of each collection point and the statistics gathered from each collection activity and associated analysis.
- Incorporate historical data available from Storm Peak Labs.
- Compare changes in acid rain data over time.
- Develop hypothses about what those changes mean to the environment and the communities

Resources Available

- Historical information from Storm Peak Labs
- Standard methods for collection and handling of precipitation samples.
- Presentations to classes on the benefits of monitoring acid rain
- Collection containers and pH testing equipment.
- GIS assistance from the ***YVCMP***

Resources Needed

Ability to share data between PCs and MACs running GIS software

Appropriate Grade Levels & Disciplines

- Grades 6-12
- Geography
- History
- Science
- Economics
- Mathematics

Skills Development

- Computer skills
- GIS software
- Scientific research
- Public Speaking
- Analytical Skills
- Deductive Reasoning

Project Summaries

The two project summaries selected here are but two of many projects conducted as part of the Urban Ecosystems Project (UEP) at the Center for Science Education at Portland State University. (PSU)

Whitaker Ponds

Community Partners: Bureau of Environmental Sciences, SalmonCorp volunteers, Urban Ecosystems Project staff, 7th and 8th grade students, four classroom teachers.

Community Context: Whitaker Ponds is a recently acquired natural area that was previously an unofficial dumping site. Restoration is needed to repair damage to the riparian and surrounding area.

Student Activities: Students did restoration work by planting native plants along the riparian area and native shrubs and trees. Students monitored water quality, studied macroinvertebrates, filled in walking paths and completed mapping activities to detail location on new cultivated areas.

Curricular Connections: Science skills were enhanced through checking and tracking pH levels, turbidity, and dissolved oxygen in various water samples. Students studied macroinvertebrates, learned about the habitat and the site's native animals and plants. Students learned mathematics and plant identification skills involved with mapping the area.

Product: Lesson plans have been created regarding water quality testing and macroinvertebrates. During a summer internship, UEP teachers developed a Whitaker Pond activity packet for teachers. This packet is available through the Bureau of Environmental Services.

Street Tree Inventory

Community Partners: Green City Data/Saturday Academy, PSU's Geography Department, Portland Park's Urban Forestry Division, Friends of Tress, UEP staff, 6th-8th grade students.

Community Context: Many blocks in the community did not have trees

Student Activities: Students learned to identify trees, locate available planting spaces, and helped suggest which trees were best to plant in those areas. Findings were presented to the public at various community events.

Curricular Connections: Students learned plant identification skills as well as data collection and analysis skills. Students used *EXCEL* computer database program to store data. Graphing, mapping, table creation and presentation skills were used as well.

Product: Lesson plans teaching tree structure were produced as well as student work samples presented to the community.

APPENDIX - Content Standards

Many projects and activities need to be tied to the National Science Standards. A check list follows the standards that can be used to chart the standards covered by your projects.

National Science Standards
Criteria for the Content Standards

CONTENT STANDARDS , GRADES K-4

UNIFYING CONCEPTS AND PROCESSES	SCIENCE AS INQUIRY	PHYSICAL SCIENCE	LIFE SCIENCE
Systems, order, and organization	Abilities necessary to do scientific inquiry	Properties of objects and materials	Properties of objects and materials
Evidence, models, and explanation	Understanding about scientific inquiry	Position and motion of objects	Position and motion of objects
Change, constancy, and measurement		Light, heat, electricity, and magnetism	Light, heat, electricity, and magnetism
Evolution and equilibrium			
Form and function			

EARTH AND SPACE SCIENCE	SCIENCE AND TECHNOLOGY	SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES	HISTORY AND NATURE OF SCIENCE
Properties of earth materials	Abilities of technological design	Personal health	Science as a human endeavor
Objects in the sky	Understanding about science and technology	Characteristics and changes in populations	
Changes in earth and sky	Abilities to distinguish between natural objects and objects made by humans	Types of resources	
		Changes in environments	
		Science and technology in local challenges	

CONTENT STANDARDS , GRADES 5-8

UNIFYING CONCEPTS AND PROCESSES	SCIENCE AS INQUIRY	PHYSICAL SCIENCE	LIFE SCIENCE
Systems, order, and organization Evidence, models, and explanation Change, constancy, and measurement Evolution and equilibrium Form and function	Abilities necessary to do scientific inquiry Understanding about scientific inquiry	Properties and changes of properties in matter Motions and forces Transfer of energy	Structure and function in living systems Reproduction and heredity Regulation and behavior Populations and ecosystems Diversity and adaptations of organisms

EARTH AND SPACE SCIENCE	SCIENCE AND TECHNOLOGY	SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES	HISTORY AND NATURE OF SCIENCE
Structure of the earth system Earth's history Earth in the solar system	Abilities of technological design Understanding about science and technology	Personal health Populations, resources, and environments Natural hazards Risks and benefits Science and technology in society	Science as a human endeavor Nature of science History of science

CONTENT STANDARDS , GRADES 9-12

UNIFYING CONCEPTS AND PROCESSES	SCIENCE AS INQUIRY	PHYSICAL SCIENCE	LIFE SCIENCE
Systems, order, and organization Evidence, models, and explanation Change, constancy, and measurement Evolution and equilibrium Form and function	Abilities necessary to do scientific inquiry Understanding about scientific inquiry	Structure of atoms Structure and properties of matter Chemical reactions Conservation of energy and increase in disorder Interactions of energy and matter	The cell Molecular basis of heredity Biological evolution Interdependence of organisms Matter, energy, and organization in living systems Behavior of organisms

EARTH AND SPACE SCIENCE	SCIENCE AND TECHNOLOGY	SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES	HISTORY AND NATURE OF SCIENCE
Energy in the earth system Geochemical cycles Origin and evolution of the earth system Origin and evolution of the universe	Abilities of technological design Understanding about science and technology	Personal and community health Population growth Natural resources Environmental quality Natural and human-induced hazards Science and technology in local, national, and global challenges	Science as a human endeavor Nature of scientific knowledge Historical perspectives

Project Checklist

Project Name													
National Science Standards													
Science as Inquiry													
Physical Science													
Life Science													
Earth and Space Science													
Science and Technology													
Science in Personal and Social Perspectives													
History and Nature of Science													

APPENDIX - Content Standards

SCANS

SCANS Competencies

The following five competencies and three skills were originally developed as part of the 1991 Federal Government Project by a joint business and government commission on identifying workplace needs in the future.

The following Secretary's Commission on Addressing Necessary Skills (SCANS) summary and planner may provide your project team with another way to document the goals and benefits of your project and to demonstrate to school administrators the value-added nature of school-community partnerships and place-based (or project-based) education.

Resources: Identifies, organizes, plans, and allocates resources.

- **Time** – selects goal-relevant activities, ranks them, allocates time, and prepares and follows schedules.
- **Money** – uses or prepares budgets, makes forecasts, keeps records, and makes adjustments to meet objectives.
- **Materials and Facilities** – acquires, stores, allocates, and uses materials or space efficiently.
- **Human Resources** – assesses skills and distributes work accordingly, evaluates performance and provides feedback.

Interpersonal: Works with others.

- **Participates as Member of Team** – contributes to group effort.
- **Teaches Others New Skills**.
- **Serves Clients/Customers** – works to satisfy customers' expectations.
- **Exercises Leadership** – communicates ideas to justify position, persuades and convinces others, responsibly challenges existing procedures and policies.
- **Negotiates** – works toward agreements involving exchange of resources, resolves divergent interests.
- **Works with Diversity** – works well with men and women from diverse background.

Information: Acquires and uses information.

- **Acquires and Evaluates Information**
- **Organizes and Maintains Information**
- **Interprets and Communicates Information**
- **Uses Computers to Process Information**

Systems: Understands complex interrelationships.

- **Understands Systems** – knows how social, organizations, and technological systems work and operates effectively with them.
- **Monitors and Corrects Performance –** distinguishes trends, predicts impacts on system operation, diagnoses systems' performance and corrects malfunctions.
- **Improves or Designs Systems** – suggests modifications to existing systems and develops new or alternative systems to improve performance.

Technology: Works with a variety of technologies.

- **Selects Technology** – chooses procedures, tools or equipment including computers and related technologies.
- **Applies Technology to Task** – understands overall intent and proper procedures for setup and operation of equipment.
- **Maintains and Troubleshoots Equipment** – prevents, identifies, or solves problems with equipment including computers and other technologies.

Basic Skills: Reads, writes, performs arithmetic and mathematical operations, listens and speaks.

- **Reading** – locates, understands, and interprets written information in prose and in documents such as manuals, graphs, and schedules.
- **Writing** – communicates thoughts, ideas, information, and messages in writing; and creates documents such as letters, directions, manuals, reports, graphs, and flow charts.
- **Arithmetic/Mathematics** – performs basic computations and approaches practical problems by choosing appropriately from a variety of mathematical techniques.
- **Listening** – receives, attends to, interprets, and responds to verbal messages and other cues.

- **Speaking** – organizes ideas and communicates orally.

Thinking Skills: Thinks creatively, makes decisions, solves problems, visualizes, knows how to learn, and reasons.

- **Creative Thinking** – generates new ideas.
- **Decision Making** – specifies goals and constraints, generates alternatives, considers risks, and evaluates and chooses best alternative.
- **Problem Solving** – recognizes problems and devises and implements plans of action.
- **Seeing Things in the Mind's Eye** – organizes and processes symbols, pictures, graphs, objects, and other information.
- **Knowing How to Learn** – uses efficient learning techniques to acquire and apply new knowledge and skills.
- **Reasoning** – discovers a rule or principle underlying the relationship between two or more objects and applies it when solving a problem.

Personal Qualities: Displays responsibility, self-esteem, sociability, self-management, and integrity and honesty.

- **Responsibility**
- **Self-esteem**
- **Sociability**
- **Self-management**
- **Integrity and Honesty**

SCANS Planner

Project: _____ Educator: _____										
Resources										
✦ Time										
✦ Money										
✦ Materials and Facilities										
✦ Human Resources										
Interpersonal Skills										
✦ Team Member										
✦ Teaches Others										
✦ Serves Clients										
✦ Exercises Leadership										
✦ Negotiates										
✦ Works with Diversity										
Information										
✦ Acquires and Evaluates										
✦ Organizes and Maintains										
✦ Interprets and Communicates										
✦ Uses Computers to Process										
Systems										
✦ Understands Systems										
✦ Monitors and Corrects Performance										
✦ Improves or Designs Systems										
Technology										
✦ Selects Technology										
✦ Applies Technology to Task										
✦ Maintains and Troubleshoots Equip.										

SCANS Foundations **Project:** _____ **Educator:** _____													
Basic Skills													
✦ Reading													
✦ Writing													
✦ Arithmetic/ ✦ Mathematics													
✦ Listening													
✦ Speaking													
Thinking Skills													
✦ Creative Thinking													
✦ Decision Making													
✦ Problem Solving													
✦ Seeing Things in the Mind's Eye													
✦ Knowing How to Learn													
✦ Reasoning													
Personal Qualities													
✦ Responsibility													
✦ Self-esteem													
✦ Sociability													
✦ Self-management													
✦ Integrity and Honesty													

Contributors

Northwest Center for Sustainable Resources
"Education for a Sustainable Future"

The Pacific Northwest, like other parts of the nation and world, is facing major challenges in sustaining natural resources while supporting the economic needs of a growing population. With funding from National Science Foundation's (NSF) Advanced Technological Education (ATE) program, the Northwest Center for Sustainable Resources (NCSR) was established in 1995. Since its founding, the Center has become a national resource for educational materials in environmental and natural resource education. With an emphasis on ecosystem management strategies and practices the Center's goal centers on creating, disseminating, and supporting adaptation of natural resource curriculum materials that feature environmental monitoring, habitat preservation and restoration, mapping, instrumentation, and other related skills woven within the context of managing complex ecosystems. Materials developed in support of this goal are used in college programs which educate advanced technicians, students who transfer from two-year colleges and those already in four-year colleges and universities in natural resource majors. Other materials focus on integrating natural resource management concepts into high school biology courses to ensure a wide range of understanding of ecosystem-based resource sustainability. This approach is producing both natural resource professionals and others with an understanding of the science and technical processes needed to rebuild and sustain our natural environment while increasing the economic benefit of these resources.

Key Activities and Products:

The Center's main activities are curriculum development, faculty and teacher enhancement institutes, and national dissemination of products.

Curriculum Development: The curriculum products developed by NCSR include a core course sequence in *Environmental Science* as well as courses in *Wildlife Conservation* and *Environmental Ethics*. These courses form the backbone of many natural resource education programs. Courses in *Aquatic Field and Lab Methods* and *Geographic Information Systems* are enhancing both technical and science offerings at two and four-year colleges. Instructional modules focusing on field and laboratory-based instruction in diverse natural resource-related topics such as ecosystem recovery from fire, ornithology, soils, and silviculture are designed for easy adaptation into existing college offerings.

The Center is also a leading resource for secondary education materials focusing on a community-based approach to teaching with emphasis on natural resource science. A series of *Educator Guides* provide teachers with a detailed "how to" approach used in developing curriculum using activities and issues in their communities. Other guides deal with subjects such as integration of ecosystem-based biology activities into general biology courses and the "what and why" of the Native American perspective on our natural environment.

Faculty and Teacher Enhancement Institutes: Field- and laboratory-based professional development experiences are offered for teachers from all levels of education through summer institutes. These institutes take advantage of world-class research sites and abundant natural resource areas in the Northwest. The success of these experiences is reflected in the fact that eighty-five percent of the participants are still using knowledge and skills gained at these institutes.

Dissemination: NCSR materials are available in printed form or on our electronic clearinghouse at **www.ncsr.org**. To receive an order form for the printed copies or to be placed on our mailing list for new products contact the Center as indicated below.

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Center for Science Education-Portland State University

The mission of the Center for Science Education (CSE) is to enhance science teaching and learning through innovative education, research and community outreach programs. The Center provides undergraduate general education courses in the sciences for all majors, a Master of Science Teaching program, and professional development opportunities for existing science educators. The Center also supports community partnerships that involve citizens and community institutions in activities that employ the inquiry practices of science. Through its programs, the Center aims to help students and teachers raise their capacity to participate in the community as informed citizens.

The contributions provided by the Center for Science Education were made possible through two grants funded by the U.S. Department of Education. The Community as a Curriculum activities and the Community-Based Education Development continuum (CBED) were developed as part of the Urban Ecosystems Project, from 1995-2001—Dr. William Becker, P.I. The Community Survey Activity Guide was developed through the 21st Century Learning Centers Initiative, a partnership between Portland Public Schools and the Center for Science Education, Dr. Patrick Burk, P.I., 2000-2003.

For more information about the Center for Science Education and its programs, please visit the website at http://www.cse.pdx.edu or call (503) 725-4243.

Western Upper Peninsula Center for Science, Mathematics and Environmental Education

The Western Upper Peninsula Center for Science, Mathematics and Environmental Education provides science, mathematics, and environmental education programs to K-12 students and teachers in the 21 school districts of the five western counties of Michigan's Upper Peninsula. The Center was established in 2001 as an innovative partnership between Michigan Technological University and two intermediate school districts. The partnership facilitates the sharing of faculty expertise and student energy with area teachers and students.

Center programs include family science nights, teacher-training workshops, curriculum development, after-school enrichment programs, classroom presentations, forest field trips, Earth Week 'Kids Can Make A Difference' incentive program, and symposia on a wide variety of math, science and environmental topics for schools and communities. The goal of these programs is to enhance the teaching and learning of science and math while promoting civic responsibility and environmental stewardship that will protect the water and other natural resources of Michigan's Upper Peninsula and the upper Great Lakes region. Center partners include: school districts, Michigan Technological University faculty and students, state and federal agencies, MSU County Extension, math/science centers throughout Michigan, and other universities. The Center is funded by grants from government agencies and foundations.

The Orton Family Foundation

The purpose of The Orton Family Foundation is to promote sustainable development within small cities and towns by engaging and empowering citizens in land use planning to make informed, equitable, and collaborative decisions affecting their environment and quality of life. The Foundation advances its mission by providing a diverse suite of planning tools and cultivating a community of civic leaders across generations, backgrounds, and regions through action research and publications, learning networks and convenings, place-based education, and technology development.

The Foundation's focus on land use planning as a pathway to sustainable development stems from its belief that the physical settings in which community life occurs can be a uniquely powerful force in inspiring civic action, establishing common ground and a basis for collective problem-solving.

The appeal of small city and town life is drawing people to America's countryside as never before. Today's technologies permit many Americans to earn their living farther away from urban centers, and more people are drawn to the quality of life that smaller communities offer. As a result, many communities are coping with rapid economic, social and environmental change, and their citizens are struggling to manage these pressures in ways that promote and enhance the beauty, community and quality of rural life.

Responding to this challenge The Orton Family Foundation was established as a not-for-profit, private operating foundation with a mission to help citizens of small cities and towns communities shape the future of their communities. Founded by Lyman Orton and Noel Fritzinger in 1995, the Foundation is supported by profits generated by The Vermont Country Store, the Orton family business.

As an operating foundation, our primary assets are ideas and programs. Instead of making grants, we bring resources together in creative entrepreneurial ways to create tools and programs that can be adapted by small communities that are actively grappling with growth and community-planning issues. Our approach is not to convince people of the "right" choice, but to instead connect people (including students) with resources that encourage and enable them to participate in fully informed decision-making processes about their community's future.
Key programs and projects The Foundation currently offers include:

CommunityViz - Community Decision-Making Software

A suite of software tools to help communities make informed, collaborative decisions about their communities and their land, emphasizing the common language of visualization.

Community Mapping Program

A unique educational program designed to engage youth and communities in a discovery process that addresses local needs, builds enduring connections to place and promotes student learning in a real world context, enhanced by the application of GIS and mapping technologies.

Community Video Project

This innovative project uses the power of video to catalyze citizen participation and collaboration in shaping their communities' future.

The Community Planning Program

This program seeks to develop new Tools and Leadership Programs to help small communities find new ways to engage citizens, encourage collaborative decision-making, and create plans for a desirable and attainable future.

For more information about The Orton Family Foundation visit www.orton.org.