

INTRODUCTION

"Investigating a Built Community" provides students with a clearly defined and easy-to-follow process to use when studying an urban or other human-built community. With rapid growth of urban and suburban areas, students need to look at patterns of land use and understand the critical importance of developing these lands wisely for future generations. In this session, students will identify parts of a human-built community, look at land-use patterns, and construct a process to investigate one part of the community. After data are collected and analyzed for different solutions, an action plan is developed to implement one of the recommendations. Throughout, the emphasis is placed on the processes of planning and carrying out the investigations.

This lesson plan, if done in its entirety, will involve 8-10 hours of time, including 2 field investigations: one 3 hours long; one 1 hour long. The field investigations in a built community can be:

- The community around a school.
- A separate part of town.
- A farm complex.
- School building and immediate area around it.

Because the field investigations require small groups to work independently, adequate advance planning for supervision is important. This investigation is ideal for structuring a cooperative learning format. If direct supervision is required by your school, aides, parents, or other volunteers are possible sources of leadership.

THE ACTIVITIES

A complete correlation is impossible without first determining the issue and the direction of study. The depth of study and time spent on the investigations will also cause this correlation to vary. At a minimum level, and with almost any issue, the following goals and guidelines will most likely be involved:



Steps And Components

- I. Preparing for the Investigation
 - A. Review on 8-step chart
 - B. Identify land-use areas and patterns.
 - C. Develop overall view of the community.
 - D. Introduction of a 3-stage data collecting chart.
 - E. Construct a 3-stage data collecting chart.
 - F. Use the 3-stage data collecting chart to analyze investigations.
 - G. Construct a data collecting and recording chart to use in the investigation.
 - H. Develop a procedure to test the investigation process.

- II. Conduct the Investigation and Report on it.
 - A. Test out the investigation process.
 - B. Make modifications in the procedure, data collecting tools, etc.
 - C. Describe the process, procedures, and modifications made in the investigation.

- III. Analyzing Alternatives
 - A. List factors that contribute to current conditions and problems.
 - B. Brainstorm how changes would affect the situation.

- IV. Develop an Action Plan.
 - A. Determine if the solution is feasible.
 - B. Develop a plan of action.

- V. Implement the Plan
 - A. Analyze individual's role
 - B. Summarize process.



CURRICULUM RELATIONSHIPS

Generally speaking, any subject area can be brought into this study. However, social studies and science are most likely to be strong components in the investigation.

Math, language arts, and the creative arts can be worked in as the students report on what they found while working through the steps in the process. The fact that all curriculum areas are involved make these environmental investigations uniquely relevant and motivating. Students can clearly see the usefulness of the various subject matter.

Social Studies

1. Investigate your community's developmental history. What was it like before development? How have land uses changed over the years? What factors caused these changes? Interview old-timers, collect old pictures, maps, and other information.
2. How do social patterns affect land use?
3. How does technology affect land use?
4. What are the zoning and planning regulations? What are the processes for changes and appeals? How are decisions made?

Science

1. Investigate water supply, distribution systems, sewage, and surface run-off systems.
2. Look for evidence of natural communities present before development.
3. Look for evidence of wildlife. Conduct back-lot and blacktop ecology studies.

Mathematics

1. Figure the cost of planting an arboretum and other landscaping to beautify the built community.
2. Calculate the cost of maintenance of the built community.
3. Investigate the water supply system and map it, relating pipe size, volume, pressure, etc.

Language Arts

1. Write a proposal for implementing a litter campaign in your area.
2. Write a narrative poem about how technology has changed our environment or an issue.
3. Write a story from a ground squirrel's point of view observing construction equipment invading its territory.
4. Write one or more scenarios for what the study area will be like in 5, 10, 50, and 100 years.

Create Arts

1. Beautify a part of your own community by planting flowers or shrubs.
2. Draw before-and-after pictures of a built community.



STEP I. PREPARE FOR THE INVESTIGATION

CONCEPT	Change, Interaction, Cause/Effect, System
PRINCIPLE	Built communities are where we spend most of our time. People should work with integrity and responsibility when developing environments for ourselves and future generations.
OBJECTIVES	<p>As a result of completing the activities in this process, students will be able to:</p> <ul style="list-style-type: none">• Identify at least five different land-use categories in built environment.• Name and describe three themes often found in communities.• Construct a data collecting and recording tool for some part of an built environment for data that is observable, collectable, and record-able.• Describe a procedure to use in initiating an urban environmental investigation.
MATERIALS NEEDED	<ul style="list-style-type: none">• Maps of the urban area to be investigated (1 per small group)• Marking pens - various colors• Blackboard or easel board/pad• Newsprint, butcher paper, or easel pad• Paper, pencils• Masking tape• Activity sheets - A; 3-Stage Chart• Wall chart - samples included in lesson plan
PROCESSES USED	<ul style="list-style-type: none">• Question• Hypothesize• Use numbers• Observe• Predict• Interpret data• Classify• Communicate• Infer
TIME	2 Hours



DOING THE ACTIVITY - indoor, 2 hours

A. Set Stage:

The urban or built environment is where most people spend most of their time. The way a built environment is planned and managed affects how easily, safely, and pleasantly we spend a great part of our lives. Winston Churchill said, "We shape our cities, after that they shape us." Today we are going to investigate the built environment in this immediate area. We will do this by following a process which will allow us to develop our own investigations to collect and interpret information, and to make some suggestions for improving the area. We will spend some time here in the classroom first, then about three hours collecting information in the community, and then time back in the classroom reporting on our findings. Most of the work will be done in small groups.

B. Procedure:

1. Put up wall chart.
2. Describe steps to students. Give them an opportunity to ask questions.
3. Ask the students: What are major land-use categories found in most communities. (List examples on board)

8 Steps to Investigating a Built Community

1. Become familiar with community.
2. Identify and focus on land-use patterns and interrelationships.
3. Identify and analyze a specific topic.
4. Conduct the investigation.
5. Prepare and report on findings.
6. Analyze factors and alternatives to the present condition.
7. Develop an action plan.
8. Communicate feelings and values.

B. Procedure:

1. Hand out community maps along with marking pens.
2. Have students locate and mark on the map all the major land-use categories they can think of.

C. Retrieve Data:

1. Have students share information.
2. Ask them if they came up with any new categories as they studied their map.

CLOSURE Ask the students what conclusions they can draw about land uses in the community.

TRANSITION There are many ways of looking at a community, from a simple, overall look, like we just did, to a more in-depth look.



A. Set Stage:

We want to find out more about different land-use categories in this area. One way to do this is with a 3-stage data collecting chart.

B. Procedure:

1. Hand out Activity Sheet A.
2. Before we start our chart, let's look at an example of one.
Note: Pick a subject other than a land-use category listed on the board. Have a large wall chart made out ahead of time, with headings made.
3. Work through the 3-stage chart column by column.

ACTIVITY A: 3-Stage Data Collecting and Analyzing Chart 45 min.
small groups

Working in your group fill out the land use category and column 1 of the chart below.

Land Use Category _____

Column 1 What we want to find out about our land use category in the area.	Column 2 How to collect the information	Column 3 How to Record the information

C. Retrieve Data:

After filling out the chart as an example, ask:

1. What might be the benefits of analyzing a land use in this way before doing an investigation about it? (Easier to see all parts, community is broken into manageable parts, problems aren't as simple as they seem)

Column 1	Column 2	Column 3
<p>What We Want to Find Out</p> <p>Location of major arterials Kinds of transportation What is needed How much is available Accessibility of terminals Land topography Is it working What is being used now Growth pattern Traffic flow pattern Peak traffic needs Attitude of People</p>	<p>How to Collect</p> <p>Observation Interview people Existing studies Count # of cases at certain place Count types of vehicles</p>	<p>How to Record</p> <p>Graphs Statistics Pictures Film Tape recorders Questionnaire Map Tables</p>

TRANSITION Now that we have looked at a simple recording device, let's apply that to an area.

A. Set Stage:

Describe the specific area the group is going to investigate and have them locate it on the map.

Note: Some things to consider in identifying an area to investigate:

- within walking distance in the time allotted (3 hours of investigation)
- area should have a variety of land-use categories
- should be interesting to study

B. Procedure:

1. Split class into appropriate number of study teams (4-5 to a team).
2. Have each study team pick a land-use category.
3. Have study teams fill out column 1 in the 3-stage chart. Allow 10 minutes.
4. Have students identify one or two items from Column 1 of their charts that they want to find out more about from actual observations in the area to be investigated, and then construct a data-collecting and recording device to use in collecting and recording observations. The items must deal with data that is observable, collectable, and recordable in the area during the actual field investigation and within the time constraints. Filling out Columns 2 and 3 may help in their planning.

Note: Samples of data-collecting charts and recording charts may be helpful.

<p style="text-align: center;">Use of Parks By Age Groups</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Age Gr.</th> <th style="text-align: center;">Swim</th> <th style="text-align: center;">Walk</th> <th style="text-align: center;">Bike</th> <th style="text-align: center;">Etc.</th> </tr> </thead> <tbody> <tr> <td>0-6</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>7-12</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>13-21</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>21-30</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>30-40</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>40-40+</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Age Gr.	Swim	Walk	Bike	Etc.	0-6					7-12					13-21					21-30					30-40					40-40+					<p style="text-align: center;">No. People in cars at Intersection - 4:00-4:15 PM</p>	<p style="text-align: center;">Location of Public Services</p>
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5. When the students are about through making their data-collecting chart, tell them to develop a plan of action to investigate their part of the environment using data-collection and recording devices in the allotted field time. Consider dividing



responsibilities for collecting and recording information: who goes where, other tools needed, etc.

6. After 10 minutes into the planning, pick up and read the following sign:

Planning for an Investigation

Usually, the problems that people have are:

1. Deciding what to do.
2. Narrowing down the scope of the topic to something specific enough to actually investigate.

HAS YOUR GROUP EXPERIENCED THIS?

C. Retrieve Data:

1. Before going out to do the investigation, have each group make a short presentation to describe the procedures, and display the recording devices to be used in the investigation. If you have a large class, have groups pair up and critique each other's plans instead of each small group presenting to the total group.
2. Just before dismissing the groups to do the field investigation, put up the following chart:

This Session is all About Learning How to Prepare for an Investigation

Today the procedures are more important than the content. The idea is to try out your data-collecting and recording methods.

It may be necessary to modify your investigation procedures as you become involved in your task.

CLOSURE Explain that today, learning how to plan and carry out an investigation which



STEP II: CONDUCT THE INVESTIGATION

CONCEPT	Change, Interaction, Cause/Effect, System
PRINCIPLE	Built communities are where we spend most of our time. People should work with integrity and responsibility when developing environments for ourselves and future generations.
OBJECTIVE	The student will be able to: <ul style="list-style-type: none">• Test out the investigative process.• Make modifications in the process.• Adapt data collection tools to specific situations.• Organize data into a report.• Prepare a presentation, using the highlights of the data collected.
MATERIALS NEEDED	<ul style="list-style-type: none">• More copies of Activity A (optional).• Wall chart -- sample included in lesson plan.• Newsprint, butcher paper, or easel pad.• Masking tape.• Paper, pencils.• Marking pens -- various colors.
PROCESSES USED	<ul style="list-style-type: none">• Observe• Predict• Infer• Communicate• Interpret Data• Use Numbers• Design Experiments
TIME	5 hours



involves collecting and interpreting data is more important than the actual content of the investigation.

A. Set Stage:

1. Tell the group that they have 3 hours to do the field work.
2. When they return, they will have 1 hour to prepare a 5-minute report about the investigation. The instructions for the report will be posted when the groups return.
3. Remind them of safety requirements and whatever supervision the students may need to have for your situation.
4. Send students out to do investigation.

Instructions for the Presentation

1. Describe your task.
2. Report on what you did, how you did it, and what it meant.
3. Describe how you modified your procedure, methods, recording devices, etc.
4. Use more than one person as spokesperson.
5. Use visual display(s).
6. Limit report to 5 minutes.
7. This is a report about the investigation process and not the content or solutions to problems unless it relates to the process.
8. Do not report on all the minute details.

Note: While students are out doing their 3-hour investigation, make this into a chart.

5. When students return, review the chart with them.

B. Procedure:

Give group 1 hour to develop presentation.

C. Retrieve Data:

Have each group give their presentation. Make sure they stick to the time limits.

CLOSURE

Ask the Group:

1. What problems did you encounter in your investigation?
2. What were the things that made you modify your procedures, etc?
3. What are some things you'd consider if you did this step again?
5. What else can we do with this information?



STEP III: ANALYZE FACTORS AND ALTERNATIVES

CONCEPT	Change, Interaction, Cause/Effect, System
PRINCIPLE	Built communities are where we spend most of our time. People should work with integrity and responsibility when developing environments for ourselves and future generations.
OBJECTIVE	The student will be able to: <ul style="list-style-type: none">• Analyze factors that contribute to a problem in the built environment.• Identify change agents that can be used for the improved livability of the area.• Develop alternatives to the present situation that would reduce or eliminate the factor that causes the problem.
MATERIALS NEEDED	<ul style="list-style-type: none">• Activity B: Analyze Factors and Alternatives.• Activity B: Example.• Wall chart or overhead of Activity B.• Paper, pencils.
PROCESSES USED	<ul style="list-style-type: none">• Hypothesize• Formulate Models• Define Operationally• Question• Classify• Control Variables
TIME	45 minutes



4. How did you decide what to report on?

A. Set Stage:

1. Remind group that the process is the important thing here and not the content.
2. Ask them any of the following questions that gets the group to look at their area as a whole.
 - a. What are some of the characteristics of the area you studied?
 - look like?
 - land uses present?
 - what do people do there?
 - b. What are some needs of your area?
 - housing?
 - transportation?
 - services?
 - c. What examples in your area:
 - illustrate the past?
 - typify the present?
 - indicate the future?
 - d. What are some interrelationships, based on your observations? (residential to business, business to transportation, etc.)
 - e. How do the interrelationships affect the community? (vacancies affect appearances, apartments affect community spirit, etc.)

B. Procedure:

1. Hand out Activity Sheet B: Analyze Factors
2. Put up chart on wall (or use overhead) and discuss with group.
3. Have individual teams select one issue, concern or problem, and fill out the activity sheet. Give them 25 minutes.

C. Retrieve Data:

This is not necessary; move on to step IV.

CLOSURE This is not necessary, move on to step IV.

TRANSITION Now that we've looked at some possible factors that affect your area and have brainstormed some alternative solutions, let's see if we can make one work.



STEP IV: DEVELOP AN ACTION PLAN

CONCEPT	Change, Interaction, Cause/Effect, System
PRINCIPLE	Built communities are where we spend most of our time. People should employ integrity and responsibility when developing environments for ourselves and future generations.
OBJECTIVE	The student will be able to: <ul style="list-style-type: none">• Develop an action plan to implement an alternative.• Analyze feasibility of alternative solutions.
MATERIALS NEEDED	<ul style="list-style-type: none">• Activity C: Develop an Action Plan.
PROCESSES USED	<ul style="list-style-type: none">• Interpret Data• Communicate• Formulate Models• Control Variables
TIME	45 minutes



DOING THE ACTIVITY (indoor, 45 minutes)

A. Set Stage:

Remind the group again that this lesson is the process.

B. Procedure:

1. Hand out Activity Sheet C: Develop an Action Plan .
2. Have group select one alternative from the activity sheet and:
 - a. determine if it's feasible
 - b. develop an action plan
3. Tell group they have 30 minutes to develop their action plan and give a 3 minute report on: solutions and implementation steps only.

C. Retrieve Data:

1. Have each team give 3-minute report.

CLOSURE Ask group: If you were the planning commission, what guidelines would you develop for consideration of future developments in your area?

TRANSITION Now that we think we have a solution, let's look at what we can do to help.



STEP V: IMPLEMENT THE PLAN

CONCEPT	Change, Interaction, Cause/Effect, System
PRINCIPLE	Built communities are where we spend most of our time. People should employ integrity and responsibility when developing environments for ourselves and future generations.
OBJECTIVE	The student will be able to: <ul style="list-style-type: none">• Describe what they can do to become involved in community action.• Describe how you and the people of your community can become involved in affecting the local political decision-making process through investigations of a built environment.
MATERIALS NEEDED	<ul style="list-style-type: none">• Activity D: Implement the Plan.
PROCESSES USED	<ul style="list-style-type: none">• Communicate• Summarize
TIME	45 minutes

DOING THE ACTIVITY (indoor, 45 minutes)

A. Set Stage:

Say: Now that we have analyzed a built environment, let's switch gears a little and talk about how you feel about what you have just done.

B. Procedure:

1. Hand out Activity D.

ACTIVITY D: Implement the Plan

20 min.
individual

Describe the part you could play in implementing your group's action plan.

a. As an individual:

b. As a member of a community action group:

c. As a part of the political decisionmaking process in your community.

2. Have students fill out the 3 parts. Give them 20 minutes.

Investigating Your Environment
Built Community 

C. Retrieve Data:

1. Ask individuals to share their thoughts.
2. Ask: What type of community action can be taken to motivate people to take informed action in situations such as we have been analyzing?

CLOSURE

Ask the following (for entire lesson):

1. What procedure did we use about our investigations?
2. Can you think of other uses for this investigation process?
3. What did we find out about our environment in our study?
4. What are some things we learned as we went through this process?



ACTIVITY A: 3-Stage Data Collecting and Analyzing Chart

45 min.
small groups

Working in your group fill out the land use category and column 1 of the chart below.

Land Use Category _____

Column 1 What we want to find out about our land use category in the area.	Column 2 How to collect the Information	Column 3 How to Record the Information



30 min.
small groups

ACTIVITY C: Develop an Action Plan

Select one of the solutions suggested by your group in ACTIVITY B. Write it below under ‘Suggested Solution’
Complete the rest of the chart.

ACTION PLANNING FOR PROBLEM SOLVING

SUGGESTED SOLUTION	TYPE OF ACTION NECESSARY TO IMPLEMENT THE SOLUTION	IDENTIFY CHANGE AGENTS WHO COULD HELP IMPLEMENT THE SOLUTION	IMPLEMENTATION STEPS TO PROBLEM SOLUTION	EVALUATION METHODS HOW WILL YOU FOLLOW UP AND EVALUATE THE EFFECTIVENESS OF YOUR ACTIONS?



ACTIVITY D: Implement the Plan

20 min.
individual

Describe the part you could play in implementing your group's action plan.

a. As an individual;

b. As a member of a community action group;

c. As a part of the political decisionmaking process in your community.



ACTIVITY B: Analyze Factors and Alternatives to Present Condition

25 min.
groups

ANALYZING FACTORS AND ALTERNATIVES TO PRESENT CONDITIONS

(This Activity is designed to brainstorm all possible alternatives.) List the factors contributing to the issue. Take each factor and ask, "How can we change this factor (eliminate, modify, substitute) to bring about a change in the issue?" Consider all alternatives, no matter how silly they may seem.

FACTOR	HOW IT CONTRIBUTES TO THE PROBLEM OR ISSUE	ALTERNATIVES TO ITS PRESENT CONDITION (Elimination Modification Substitution)	DESCRIBE HOW THE CHANGE WILL EFFECT THE PROBLEM OR ISSUE

Describe the alternatives or combination of alternatives that might bring about an improvement or solution to the problem of the environment investigated. Give reasons for your choices.

