

## LESSON 9: ACTION IN URBAN ECOLOGY

### OVERVIEW

*Students will be provided with a framework for thinking about and planning for directed action based on the science of urban ecology. They will examine and discuss a case study that follows this framework, and will also have the opportunity to apply the framework in an example project, that of making the case for paper recycling in a fictional high school.*

*This framework is a consistent feature of the curriculum, and is a part of every module. Each subsequent module will explore one aspect of the action planning framework in greater detail in conjunction with the understanding goals of the modules. Throughout, students will be able to gain a better understanding of the framework and directed action based on the science of urban ecology, as well as build towards a final culminating project plan. The final module of the curriculum, module 8, is centered on this framework.*

### SUB-QUESTION

How can we plan for action in urban ecosystems?



*Students will...*

#### Understand

- Recognize the connections between urban ecology and environmental action.
- Understand the importance of planning in environmental action.

#### Talk

- Consider the intended audience when presenting a plan for environmental action.

#### Do

*No specific goals connected with doing the science of urban ecology in this lesson.*

#### Act

- Analyze a case study based on the Action Planning Framework.
- Construct a simple plan for environmental action based on the Action Planning Framework.

### SAFETY GUIDELINES

No specific safety issues are associated with this lesson.

### PREPARATION

#### Time

#### **2 class periods**

- Day 1
  - Activity 9.1
  - Activity 9.2
- Day 2
  - Activity 9.3

## Materials

### **Activity 9.1**

- Student worksheets (one for each student)
- Computer and projector (optional)
- Action Plan PowerPoint (optional)

### **Activity 9.2**

- Student worksheets (one for each student)
- Highlighters (preferred), pens, or pencils

### **Activity 9.3**

- Student worksheets (one for each student)
- Butcher paper or poster board (optional)
- Markers (optional)

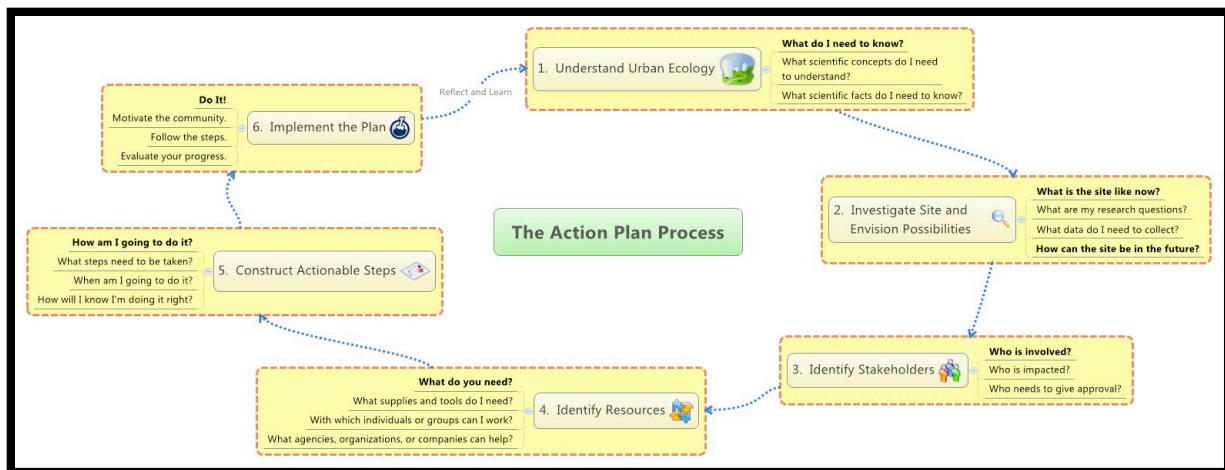
## INSTRUCTIONAL SEQUENCE

### **Activity 9.1: What's an Action Plan?**

1. Introduce the idea of an Action Plan
  - a. Ask them what they think it may mean to take environmental action. Why would someone want to take action based on what they are learning about urban ecology?
  - b. Ask them what they see as the value of drawing up a plan based on science in order to take environmental action.
2. Distribute the 9.1 student worksheet. Tell your students to refer to the Action Plan Process graphic in the 9.1 worksheet for this lesson and/or project the image for the class. Give them a few minutes to look it over.
  - a. Ask if they have any questions.
  - b. Go over each stage in the planning process utilizing the PowerPoint presentation if you wish. Feel free to refer to the explanations below (which are also provided on the student sheet).
    - i. **Science Knowledge:** What do we need to know in order to understand the site? What science concepts and facts do we need to draw upon in order to write up our action plan?
    - ii. **Investigate Site:** What's the site like now? You may use several different ways to describe the site, through the scientific data you will be collecting, written descriptions, photographs, drawings, etc.
    - iii. **Envision Possibilities:** How could your site be? Can it be maintained so that environmental and ecological health is sustained, or can the site be improved to make the site even better for the ecological community, and the neighborhood around the site?
    - iv. **Identify Stakeholders:** Who's involved? Who is impacted by the action plan, and who needs to approve it? Who owns the site?
    - v. **Identify Resources:** What do you need to make your plan happen? What materials do you need? Are there any community or city-wide organizations or agencies who might be able to help? Are there any

companies, stores, or agencies which might donate supplies, time, or money?

- vi. **Construct Actionable Steps:** How are you going to make it happen? What can be done? When can you do it?
- vii. **Motivate and Implement:** If you're able, motivate everyone to get involved, and make it happen!



### **Activity 9.2: Action Plan Case Study: Making Some Noise**

1. Let your students know that they will be looking at the action plan for a project that has been completed successfully by a college-level urban ecology class.
2. Allow your students to read over the completed action plan individually, in groups, or as a class. You may want to go over each section of the process individually rather than read the plan in its entirety.
3. Prompt your students to highlight or underline key words or phrases in each section that are important for providing information for that particular section of the Action Plan Process. For example, in the Science Knowledge section, one group may highlight the following phrases:



#### **Science Knowledge:**

*What do I need to know?*

We need to find out how chemicals in the environment can impact the health of people, especially ones that can cause asthma and cancer. We also need to find out how these chemicals are measured, and how counts of people with asthma and cancer are conducted, and what the actual amounts of chemicals are and what the actual rates of asthma and cancer are. Lastly, we need to find out how the chemicals can be cleaned up safely and effectively, and if there are other things that can be done in the community itself to help the process (like planting plants or trees).

4. After each section, discuss the plan and what is represented in each section. Point out the defining attributes of each section. Refer back to the diagram of the Action Plan Process as well as the accompanying guiding questions.

### **Activity 9.3: Your Turn: Bringing Paper Recycling to Central High School**

1. Tell your students that they will now be creating an Action Plan of their own. This is an exercise to allow students to become familiar with the Action Plan Process, so the plans at this point do not need to be very detailed. The Action Plan Process is a consistent feature throughout the curriculum, so there will be opportunities in each module to revisit the Action Plan Process and improve the level of detail and understanding.
2. Break the students into small groups of 2-3 students each. Read over the scenario with the students, that they have been asked to help an urban ecology class at the fictional Central High School to set up a paper recycling program.
3. Tell them that, if time allows, they will be “pitching their ideas” to the rest of the class. While reminding them that there is no “right” answer for this process, they do need to make a compelling case. Therefore, ask them to think about who their audience for this plan may be, and how to present their plan in a way that might “work” for this audience.
4. Let the groups fill in the Action Plan Process sheet and provide guidance when needed. Please remind your students that there is not a “right” answer for this process, and each group may come up with a different plan. There is also some “guess work” involved, as they do not know much about Central High School, but encourage your students at this point to include some generic responses (e.g., the principal is a good stakeholder to involve to get permission to move forward on the project, even if they don’t think of

custodial staff or district-level administrators who are also stakeholders and may need to be consulted and give permission).

5. If time allows, encourage the groups to present their plans to the rest of the class. They may simply read from their sheets or create posters using butcher paper. Ask them who they saw as their audience, as the idea is get them to start thinking about how to “pitch” their plan in a way that is compelling to the intended audience (school officials, scientists, other students, community members, etc.).

### **Concluding the Lesson**

Discuss the student’s responses to the Action Plan components. Were there similar trends throughout the groups? Key differences? Why do they think their Action Plan will work? Is there anything they have learned from other groups that they liked or found interesting, and may consider including in their own Action Plans?