

## **Lesson 2: Hiding in Plain Sight**

*What does an “invader” look like?*

**Overview:** Students will create their own gardens using basic plant “needs” to define their perimeters during the planning. Also, a short story is begun, in which students read the tale of a new student in school and draw comparisons between his arrival and that of plants or animals to a new habitat.

**Objectives:** Students will make comparisons between the way a plant, animal, and human enter a new environment. Students will plan and design a garden which optimizes the growth requirements of the plants they are given.

<b>Key Concepts:</b> living requirements
<b>Subjects:</b> Biology, Ecology, Math
<b>Duration:</b> 1 class period (40 minutes)
<b>Setting:</b> Classroom
<b>Season:</b> Any
<b>Interdisciplinary Connections</b>
<b>Frameworks:</b>

*Environmental Education @ the Cove River Site, and other coastal Connecticut settings.*



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**Introduction:** Many of the decorative plants in our gardens are non-native, introduced species which, when allowed to propagate and spread unintended, have become unintentional invaders. These intentionally or accidentally introduced plants and animals often flourish outside of their native habitat due to a lack of natural predation or resource competition. No U.S. state is immune to invasives and the following lesson helps students to put a face on some of our more common introduced plants, and gets them thinking about how and why they are now here.

**Background:** No additional information is needed for this lesson but make sure that your students understand that all living plants/animals have specific requirements in order to thrive and grow. Plants need measured light, water and nutrient intake, space and a means of reproduction or propagation. Additionally it should be understood that sunlight amounts and patterns of exposure change with the season. For completing the plant space requirements of the planned garden, the students need a general understanding of map scale and also basic multiplication for calculating yearly plant growth. Students will also need to create and utilize a map key.

### **Materials:**

- plant photo/info cards; approx. 20 plant cards per group of 3 (see Provided Resources),
- land plotting maps; 1 per group of three students (in Resources),
- crayons, markers, colored pencils,
- Teacher’s Invasive Plants Key (Resources),
- (OPTIONAL) journals,
- several copies of New Student story; Part I “Arrival”.

### **Preparation / Set Up :**

- Create your own plant cards that suit your particular geographic region OR use the samples provided in the resources section.
- Cut them into individual plant samples and make enough copies for each group of 3 to have at least 20 different plant species.
- Create your own or copy the provided land plot sample (in resources), 1 per group of 3 students.
- Copy story of New Student, 1 per student.

**Procedure:**

1. Divide students into groups of 3 and provide each group with at least 20 plant cards and 1 land plot map.
2. Instruct the class that they have approximately 30 minutes (or 75% of total class time) to create a well-planned garden based upon the plant requirement information on each card, as well as personal aesthetics.
3. The groups must use at least 15 of the plants in their garden displays, and use the markers/crayons to plot where each plant is placed and how many of them are in each spot, based on size and map scale. They may utilize a color-coded map key to help with this task.
4. Each group must also be prepared to give justification for much of their planning, including the provided light/water/soil/space requirements.
5. At completion of planning time, display each garden plot and lead a discussion on their methods. (Again, NO instruction is given yet)
6. Finally, using the provided key, identify for the class which plants are considered native to CT (or New England), were introduced, are considered severe pests, etc. and have students remove them from their gardens.

CLOSURE: Discuss responses and/or allow several minutes to journal reactions to activity.

**SUGGESTED FOLLOW-UP/HOMEWORK:**

Distribute Part I of New Kid Story. After reading it they are to make a Venn diagram using the new student and invasive species and draw conclusions about them, especially the arrival (or introduction) of both.

RESOURCES and WWW LINKS ( and origins clues):

<http://www.hort.uconn.edu/CIPWG/>

<http://www.invasivespeciesinfo.gov/unitedstates/ct.shtml>

<http://www.ct.gov/dep/cwp/view.asp?a=2702&q=323494>

[http://nbii-nin.ciesin.columbia.edu/ipane/ctcouncil/CT\\_Invasive\\_Plant\\_List.htm](http://nbii-nin.ciesin.columbia.edu/ipane/ctcouncil/CT_Invasive_Plant_List.htm)

<http://www.ct.nrcs.usda.gov/invas-factsheets.html>

<http://invasivespecies.nbii.gov/states/connecticut.html>

<http://www.defenders.org/resources/publications/invasives/connecticut.pdf>

[http://ct.gov/caes/lib/caes/Aquatics\\_Guide.pdf](http://ct.gov/caes/lib/caes/Aquatics_Guide.pdf)

<http://www.nature.org/wherewework/northamerica/states/connecticut/science/art24071.html>

[http://www.woodstockconservation.org/Invasive\\_plants.htm](http://www.woodstockconservation.org/Invasive_plants.htm)

[http://www.seagrant.uconn.edu/whatwedo/ais/lis\\_tour.php](http://www.seagrant.uconn.edu/whatwedo/ais/lis_tour.php)

**PROVIDED RESOURCES:**

Sample plant photo/information card

Sample land plotting map

Teacher's Invasive Plants Key (based on plant sample card above)

Story starter of New Kid in School; The Arrival