

LESSONS OVERVIEW

Students learn the application design process and how professionals in the real world use this process to solve the local problem of health and sustainability of our urban forests. Students will participate in various steps of the design process while evaluating and restoring an urban forest. These steps include 3 investigations in the forest:

- Percent canopy cover
- Percent invasive plant cover
- Relative % of evergreen versus deciduous trees.

Students will then analyze this data using GSP's Tree-iage analysis to identify the solution (strategy) for restoration. Students will report this information both to Green Seattle Partnership as well as middle and elementary classrooms so they can implement their part of the plan. Students reflect on what they have accomplished and the effect of their efforts on the urban forest ecosystem then write a report. Students will receive a certificate from the Green Seattle Partnership in celebration of their effort.

Lesson 1 - *Introduction to Urban Forest's Value*

In this lesson students will learn what urban forests are and why they are important. Optionally, students can investigate in their neighborhoods' green spaces. Students will look at a map and discuss the current amount of green spaces and watersheds.

Lesson 2 - *Solving Problems-the Design Process: Defining the Problem*

Students view the **UFP PowerPoint**. Then students review the steps for the design process. Next students read page 2 of Green Seattle Partnership: Forest Steward Field Guide and come up with a statement to define the problem facing urban forests in Seattle.

Lesson 3 - *Researching the Problem: Identifying Native Evergreen Trees*

Students will learn to identify 5 trees by their physical characteristics and categorize them as to whether they are deciduous or evergreen as well as conifer or broadleaf.

Lesson 4 - *Researching the problem: Identifying Invasive Plants*

Students learn to be an expert on one invasive plant and use a chart worksheet to summarize information about their invasive plant. Students will also analyze the information in terms of the invasive plants' effect on urban forests ecosystems. They will then teach one another about their particular invasive plant.

Lesson 5 - *Researching the Problem: Urban Forest Evaluation -Planning Field Investigations*

Students will plan and conduct three investigations in order to perform their own Tree-iage analysis of their local urban forest. In this lesson students view the protocols for the field investigations in the **UFP PowerPoint** and write procedures in their notebooks. They also practice with the tools before going out into the field where they will gather the information necessary to determine the Tree-iage category/strategy.

Lesson 6 - Field Experience: Conducting Field Investigations

Students will conduct 3 investigations in their urban forest in order to perform the Tree-iage analysis (Lesson 8) of their forest site. Students answer the following three questions about the urban forest through their investigations:

1. Is canopy cover greater than 25%?
2. What is the % of invasive plant cover in the forest?
3. Which type of tree, evergreen or deciduous, is more abundant in the forest in _____ Park?

Lesson 7 - Analyzing data and Writing Conclusions

Students individually edit their procedures and write conclusions for their 3 investigations and then use that data to conduct the Tree-iage analysis (Lesson 8) and decide on the restoration strategy (solution to the problem).

Lesson 8 - Generating a Possible Solution: Tree-iage Analysis

As a class, students will use their data to follow the Tree-iage analysis and discuss the implications of their findings. Students write a report of their Tree-iage findings and create a presentation, PowerPoint, website, or report to inform middle and/or elementary students of their findings.

Lesson 9 - Stewardship and Monitoring

Students reflect on their experience evaluating the urban forest, submit their findings along with middle and elementary school efforts to the Green Seattle Partnership. Classes have a celebration where they are awarded forest stewardship certificates.