

## Marshall University Sustainability Department

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# Tree Scavenger Hunt

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## OBJECTIVES

Students will identify trees using tree identification guides during a tree scavenger hunt. They will discover the biodiversity of trees on Marshall's campus throughout their search then learn about the significance of biodiversity through class discussions.

## LESSON PARAMETERS

1. **Key Terms** - biodiversity, transplant, native species, imported species, types of trees (Maple, Ginkgo, Magnolia, Beech, Crabapple, Oak, Elm, Locust Honey, Dogwood, Weeping Cherry, Canadian Hemlock, Sycamore, Spruce, Ash)
2. **Group Size** - groups of 3 to 5 students; applicable for a class ranging from 3 to 30 students
3. **Grade Levels** - 3<sup>rd</sup>- 12<sup>th</sup>
4. **Duration** - one 60 minute session
5. **Setting** - outdoors
6. **Disciplines** - Science, Biology, Physical Education, Geography, Technology, Environmental Education
7. **Learning Techniques** -
  - a. Discussion
  - b. Hands-On
  - c. Group-based Collaboration
  - d. Interdisciplinary
  - e. Activity-based
  - f. Real-world application
  - g. Expeditions
  - h. Nature-based



## GREEN CONNECTIONS

- **Connections to Home and Community** - Students explore the Marshall campus, taking an inventory of the types of trees present in the community. They may take this tree identification skill to their own homes and communities and encourage biodiversity.
- **Sustainable Perspectives** -
  - Gardening
  - Tree Identification
  - Biodiversity
  - Native Species vs. Invasive Species

## LESSON SUMMARY

To begin the lesson, the instructor will ask the first four discussion questions to the class as a whole. The students and instructor will discuss their answers and figure out the correct answers together, thus introducing tree identification guides. Depending on availability of resources, students will be given tree identification guides (books or handouts) or tree identification apps (LeafSnap or V-tree for example).

Then the instructor will introduce the tree scavenger hunt to the students, explaining the rules and regulations. The instructor may need to familiarize the class as a whole to the map of Marshall's campus to ensure the groups don't get lost. The class will be split into teams of three or four (depending on class size) and will choose a team name. Each team will be given a tree checklist and a map of campus. Students must use their identification guides to identify the trees. Each tree will be worth two points. The team that finds the most trees within the time limit receives the most points. If a group is struggling to find a certain tree, they may request the tree's possible locations from the instructor (stationed at a designated area during the hunt). Location requests will cost one point.

When time is up, all groups must return to the designated meeting place (classroom). If a team is late, they will lose points. The instructor(s) will check each team's trees and record the total points. The team with the most points wins (they may be given prizes if available). To conclude the hunt, the class will talk about the remaining discussion questions.

## ACTIVATING STRATEGY

To intrigue the students and prepare them for a scavenger hunt, the students and instructor will discuss the first four questions from the discussion questions. This may activate prior knowledge if they already know how to identify some of the trees, or it will pique student curiosity to find out how to identify them.

## LESSON DEVELOPMENT

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| <p><b>Exploration &amp; Application Lesson</b> - Students actively search for various trees on campus to complete the scavenger hunt. They must apply their tree identification skills to be able to locate the trees.</p> | <p><b>Explanation Lesson</b> -Students will receive information through discussions before and after the scavenger hunt. These discussions will introduce tree identifying techniques, the importance of biodiversity, and native/non-native species.</p> |
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## LESSON CONTINGENCY AND ADDITIONS

If bad weather, students may do online research to find each tree on the list in place of the scavenger hunt. They must make either a Word Document or PowerPoint with the name, picture, and how to identify (key attributes) each tree on the list.

If time allows, students may discuss further with the instructor or do further online research on some of the trees they found.

## DISCUSSION QUESTIONS

- What does a Maple tree look like?
- What does a Magnolia tree look like? Oak? Beech? Ginkgo?
- How can I identify these trees?
- Where are these trees on Marshall's campus?
- Why is it important to have tree diversity?
- How did the trees on this campus get here?
- Which trees are native to this area?
- Which trees were imported/transplanted?

## MATERIALS

- Tree identification guides (either books, handouts, or apps) per group
- A map of Marshall's campus per group
- Scavenger Hunt handouts per group
- Camera devices per group (optional but highly recommended!)
- Prizes for winning group (optional)

## RATIONALES

- Next Generation Science Standards
  - **HS-ETS1-1** - Analyze a major global challenge to specify qualitative and quantitative criteria and constraints for solutions that account for societal needs and wants.
- 21st Century Science Content Standards and Objectives for WV Schools
  - **SC.0.7.2.07** - evaluate how the different adaptations and life cycles of plants and animals help them to survive in different niches and environments (e.g., inherited and acquired adaptations).
  - **SC.0.7.2.10** - analyze the differences in the growth, development and reproduction in flowering and non-flowering plants.
  - **SC.0.8.2.06** - analyze how behaviors of organisms lead to species continuity (e.g., reproductive/mating behaviors, or seed dispersal).
  - **SC.0.6.1.08** - use a variety of technologies and scientific instruments to conduct explorations, investigations and experiments of the natural world.
  - **SC.0.6.1.10** - utilize experimentation to demonstrate scientific processes and thinking skills (e.g., formulating questions, predicting, forming hypotheses, quantifying, or identifying dependent and independent variables)