



# NEXT GENERATION STEWARDS FIELD STUDY TRIP

## **OVERVIEW:**

Students will explore a Pacific Northwest forest ecosystem as they continue to investigate how the biotic and abiotic parts of a healthy forest interact. They will discuss ways they can be stewards of nature. Along the way, they will record their observations and reflections in their science journal.

## **OUTCOMES:**

- 1) Students will hike in a forest.
- 2) Students will identify common Pacific Northwest producers, consumers, and decomposers.
- 3) Students will consider actions they can take to help protect forests.

## **NEXT GENERATION SCIENCE STANDARDS:**

Please visit [mtsgreenway.org/get-involved/education/standards](https://mtsgreenway.org/get-involved/education/standards) for a complete listing.

**SUGGESTED GRADES:** 4th - 5th

**TIME:** 3 - 4 hours

## **LOCATION:**

Tiger Mountain State Forest  
High Point Way Trailhead  
26500 SE 79th St., Issaquah, WA 98027

## **MATERIALS:**

### **Items brought by the classroom teacher:**

- Next Generation Stewards science journals

### **Items provided by Greenway Education Program:**

- Greenway Event sign
- 4 backpacks, each containing:
  - Tiger Mountain trail map
  - Pencils
  - Clipboards
  - Thermometer keychain
  - Plant ID cards set
  - Animal ID cards set
  - Non-native invasive plants ID sheet
  - Decomposers ID sheet
  - Magnifying glasses
  - Student and Chaperone Sheets
- Optional: scat and track molds and identification bandanas
- Greenway map brochures (1 per student)

## **STUDENT AND CHAPERONE GUIDE SHEETS:**

Guide sheets for the Tradition Lake Trail, Bus Trail, and Swamp Trail has been designed for both students and chaperones. They are always changing and the guide used during the field trip will be predetermined by the Greenway Educator.

## **PROCEDURES:**

### **1 Welcome and Bathrooms (approx. 10 minutes)**

Meet the group in the parking lot and board the bus (or greet the carpool caravan). Welcome students, teachers, and chaperones to the field study trip and tell them to bring their warm clothes, rain gear, water, lunch, and science journals. Explain that we will be out on the trail for 3 to 4 hours and they will need all the items just mentioned. They will have an opportunity to use the bathrooms before getting started on the trail. They will eat lunch on the trail.

Optional: Set out track and scat molds and identification bandanas to engage students while everyone uses the bathroom.

#### **Checklist for Greenway Educators:**

- Ask the teacher or bus driver what time they need to leave. Be sure all Greenway Educators know what time to be back at the trailhead.
- Write down school name, date, how many students, and number of adults in your group on the Educator Checklist.
- Collect from the teacher signed youth waivers and signed adult waivers.
- Give the teacher Greenway map brochures; suggest they put them on the bus.
- Learn the teacher's and chaperones' names. Collect their cell phone numbers, and tell them where to find your cell phone number.
- Give each chaperone a Chaperone Guide Sheet and a brief overview of how the day will go and what expectations you have for them.

### **2 Introduction (approx. 10 minutes)**

Start with a native land acknowledgement. Then, describe the role and work of the Greenway Trust. On a large map of the Greenway, point out their school's city, Tiger Mountain, and a few other key features. Direct students to the map of the Greenway on page 5 of their science journal.

Thank the chaperones for coming. Briefly explain their role: chaperones will lead a small group of students and help keep them on task.

Announce that today we are going to continue to become Next Generation Stewards of the Greenway and of nature by studying this forest ecosystem. Ask the students what it means to be a steward of nature. If they don't know, explain that it means to help take care of nature.

Remind them that ecosystems can be very large or very small, and they are always changing. The challenge today is to observe the forest ecosystem, figure out connections between the parts, observe the natural and human-caused changes that impact this ecosystem, and think about actions you can take to protect ecosystems. Encourage them to use pages 9-11 in their science journals to record their observations, questions, reflections, and drawings.

Encourage them to use and share out the resources in their Greenway backpack.

Discuss trail etiquette, or how we can be good stewards of the land today. Ask students if they know some of the "do's" and "don'ts" of hiking on forest trails. (Some of them may have heard of the Leave No Trace principles). Make sure the following are included: stay on the trail and within sight of your chaperone; respect plants by not stepping on them; respect animals by not disturbing them; respect others by not throwing anything; be safe by not running on trails or by climbing on logs or other structures; respect others and wildlife by not littering or using loud voices.

### 3 Forest Walk (45-60 minutes)

Ask the teacher to divide the class into four groups, each with an adult chaperone. Optional: ask students to come up with group names. Tell them you will launch the groups on the trail about five minutes apart. While the groups are waiting their turn, they should get started recording observations of the abiotic parts of the ecosystem on pages 9-10 in their science journal.

Suggestion: If there are at least four adult chaperones, the teacher should go with the first group and check in with the second group at some point. This allows the Greenway Educator to bounce between the third and fourth groups. The Greenway Educator should be sure the teacher knows what to do with the students while they wait at the lunch site.

Checklist for launching a group on the trail:

- Show the students their route on the Tiger Mountain trail map, alerting them of any tricky sections (e.g. the old bus, the Bus-Lake Trail connector)
- Confirm the chaperone knows where to find your cell phone number
- Remind the students to help each other stay on task, to share the resources in the Greenway backpack, and to not interact with the other groups
- Confirm all students have a science journal, clipboard, and pencil
- Remind them that they will wait for all four groups to gather before eating lunch

The Greenway Educator will start hiking with the fourth group and ultimately hop up to the first group, ideally before they reach the lunch site.

The Greenway Educator will do their best to get to each group along the trail, leapfrogging up the trail to the first group. With each group, highlight key concepts and point out natural and human impacts on the forest.

### 4 Lunch (15 minutes)

When the whole class is gathered at the lunch site, students may take about 15 minutes to eat.

Before or after lunch gather the class into a large circle and ask them to share one observation about the forest ecosystem they just walked through. Ask them what evidence they saw of change in the forest, and if they think that change affects the wildlife who live here.

After lunch, be diligent about picking up "micro trash" so we leave our field trip lunch sites cleaner than we find them.

### 5 Game (15-30 minutes)

As time allows, do at least one of these activities that models how energy moves through the ecosystem and/or the roles of producers, consumers and decomposers. Here are a few examples:

- **Owl in the Woods.** Place chaperones out in the woods as physical boundaries. One student is the Owl and stands in one place ("on the perch"). The rest of the students are Mice. The Owl covers their eyes and counts down from 20 while the Mice hide in the forest. The Owl "eats" a Mouse by saying his or her name and describing their hiding place. Challenge the Mice to move around without being seen by the Owl. To start a new round: call "olly olly oxen free," the Mice all come back to the trail, and you choose a new Owl. Note: this game requires a large area of forest free from hazards such as stinging nettle or Devil's club.
- **Pass the Energy.** Stand in a circle. One person starts in the center and represents the sun. They must choose a biotic or abiotic element that they get energy from or give energy to, then choose a classmate

to represent that element and switch places with them. This second student is now in the center and must choose a new element and classmate. Continue this way until all students have had a turn in the center of the circle or as time allows.

- **Sit Spot.** An ancient practice of spending time in one spot in nature. Your task is to observe your surroundings with most of your senses (don't eat anything!). On page 11, draw the forest around you as you see it. Be sure to label your drawing and include arrows that show how the energy moves through this forest ecosystem.
- **BioBlitz.** Citizen scientists can participate in an annual BioBlitz, hosted by the National Park Service and National Geographic. The goal is to spend 24 hours inventorying as many species of plants, animals, microbes, fungi, and other organisms as possible. Today, we are going to do a mini BioBlitz here in the Tiger Mountain forest ecosystem. Your group will have [TBD] minutes to identify and write down as many plants, animals and fungi as you can within this circle of rope. Note: if you don't have rope or something similar, you can define an area of study by drawing a circle in the dirt with a stick.
- **Tree Succession.** This rock-paper-scissors game models the order in which trees return after a disturbance (e.g. fire, windstorm, timber harvesting). **Full game description is on the Greenway Trust's server.** Recommendation: Round 1 is native trees only, Round 2 add English ivy (a non-native invasive plant, Round 3 add Restoration Specialists (humans who remove English ivy and plant red alders).
- **Silent Hike.** Challenge the students to hike silently for a relatively short distance. Suggestion: approximately 5 minutes. Arrange the class in a single file line

on the trail with ample space between students. Ask the chaperones to distribute themselves along the line and help students meet this challenge. After the silent hike, debrief the experience.

## 6 Drawing/Writing (5-15 minutes)

Ask the students to stand with their chaperone. Each student should have their science journal, clipboard, and pencil. Direct the students to page 11 in their science journal. Whichever activity you choose to do, be sure to clearly define the boundaries of the space and what you expect the students to accomplish.

## 7 Debrief at the Trailhead (10 minutes)

Leave enough time to hike back to the trailhead to do a short debrief, collect backpacks and contents, and offer a final bathroom opportunity. Thank the chaperones for supporting the students' field trip. Remind the students that a Greenway Educator will visit their classroom again for a reflective lesson for which they will need their science journal. Ask the teacher to collect the science journals so they will have them for the reflective lesson.

Example debrief questions:

- What are some things you can do to help protect forests like Tiger Mountain?
- What does it mean to be a steward of nature?
- Do you think you would care about this place if you didn't know anything about it?
- Did you see or do anything today that you hadn't seen or done before?