



Science Unit: *Temperate Forest*

Lesson 17: *Tree Top Canopy Field Trip*

School year: 2008/2009

Developed for: David Lloyd George Elementary School

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Grade level: Presented to grades 1 and 3; appropriate for grades 1 - 6

Duration of lesson: 2 – 2.5 hours

Notes: This is lesson 6 of a science unit comprised of 6 lessons on Plant and Animal Needs and Adaptations. All 6 lesson plans in this unit are listed below and are available from the Scientist in Residence Program website: <http://www.scientistinresidence.ca>.

1. Land Plants and Algae: go to the web site above, click on the Plants, view Lesson 9 *Land Plants and Algae*.

2. Plant Lifecycles: go to the web site above, view the Plants science unit, Lesson 10 *Plant Lifecycles*.

3. Parts of a Flower and Pollination: go to the web site above, view the Soils, Plants and First Nations science unit, Lesson 3 *Parts of a Flower*.

4. What do Snails Eat?: go to the web site above, view the Forest Ecosystem science unit, Lesson 3 *What do snails eat?*

5. Marine Field Trip to Whytecliff Park: go to the web site above, view the Aquatic Ecosystems science unit, Lesson 3 *Marine Field Trip to Whytecliff Park*.

6. Tree Top Canopy Field Trip: this lesson

Objectives

1. Explore the Pacific rain forest canopy.
2. Discover canopy flora and fauna and learn about the vertical structure and layers of the forest.
3. Learn about other plants and animals in the Botanical Garden.

Background Information

The Greenheart Canopy Walkway at UBC Botanical Garden provides a unique look into the Pacific rain forest. Reaching heights of 17.5m above the forest floor, students get a bird's eye view of the forest, and a close-up look of flora and fauna living in the forest canopy, including mosses, lichens, invertebrates and birds. The aerial walkway is a series of suspended bridges spanning 308 meters, gradually rising above the forest floor with several look-out towers.

The coastal rain forest can be divided up into 5 distinct layers, clearly visible from the canopy walkway. These include the forest floor, the herb layer, the shrub layer, the understory layer and the canopy. Ferns, mosses and small herbaceous plants are located in the herb layer, while the shrub layer may include small bushes including salmonberry and thimbleberry. The understory layer includes small trees



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such as the vine maple and large bushes such as the elderberry and tree saplings. The canopy layer usually consists of evergreen and deciduous tree species such as broadleaf maple, Douglas Fir, hemlock, cedar and red alder.

Note: Booking should be done early in the year. Entrance fees are \$6 per child as of 2009 and include a guided tour of the UBC Botanical Garden and guided tour of the Canopy Walkway. Washrooms are available at UBC Botanical Garden entrance as well as a covered area for eating lunch. There is a self-guided tour for children, consisting of a series of red stop signs with age-appropriate activities and information. Interesting areas for young children include the food garden, the physick garden, and the native garden.

Caution: some small children may be frightened by the rocking movement of the bridges and the elevated height.

Vocabulary

<u>Canopy layer:</u>	Highest layer of vegetation in the forest, made up of mature trees. Sometimes an emergent tree will extend above the canopy layer.
<u>Understory layer:</u>	Forest layer, just below the canopy, made up of saplings, shorter shade tolerant trees and large bushes
<u>Shrub layer:</u>	The shrub layer is between 1-3 meters in height above the forest floor and consists of very young trees and small shrubs.
<u>Herb layer:</u>	The herb layer is up to 1 meter above the forest floor and consists of mosses, ferns, flowering herbs and must be very shade tolerant
<u>Forest floor:</u>	Often called the litter layer, this is the layer which receives all the dead plant and animal matter and provides nutrients for the other layers of the forest.

References

<http://www.mightytrees.com/science/foreststrat.html>

<http://www.ubcbotanicalgarden.org/visitorinfo/greenheart-canopy-walkway.php>