



## FOREST EDUCATION

### A Tool in Delivering K-12 Science Curriculum

The following are summaries of reports from teachers and/or foresters who have used forests in classroom lessons and field trips to teach students about science. The intent of these is to provide information to other teachers interested in becoming involved in the Teacher-Forester Program of the National Forest Week-BC Coalition.

<b>TEACHER NAME:</b> Lindsay Parkes	<b>ABCFP Member NAME(s):</b> Catharine Chairman, Ana Maria Gonzalez, Eric Nelson, Enrique Sanchez.
<b>SCHOOL DISTRICT:</b> # 43 (Coquitlam)	<b>SCHOOL:</b> Eagle Mtn. Middle School, Port Moody.
<b>GRADE(S) INVOLVED:</b> 6 & 7 students	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Field presentation
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)	
<p>10 classes compose of 30 students each.</p> <p>There were four (4) stations established in a park adjacent to the school. Each class was presented each of the topics shown below in a 15 minutes time frame.</p>	
<b>SCIENCE CURRICULUM TOPICS COVERED</b>	
<ol style="list-style-type: none"> <li>1. <u>Forest Management</u>: Forest Measurements (estimates) without tools</li> <li>2. <u>Career</u>: Job Opportunities in Forestry</li> <li>3. <u>Environmental Management</u>: Everyday use of wood products</li> <li>4. <u>Technology</u>: Understanding Forestry now and in the future</li> <li>5. <u>Ecology</u>: Tree Identification and Invasive Plant Challenges</li> </ol>	
<b>Note:</b> Topics 1 & 2 were combined.	



<b>TEACHER NAME:</b> Mrs. Reznik	<b>FORESTER NAME:</b> Karen Marshall
<b>SCHOOL DISTRICT:</b> # 43 (Coquitlam)	<b>SCHOOL:</b> Seaview Community School, Port Moody
<b>GRADE(S) INVOLVED:</b> Grade 3 and 4 (split class)	<b>FIELD TRIP OR CLASSROOM LESSON:</b>
<p><b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)</p> <p>Mrs. Reznik sent me the PLOs that she wanted to address and I made a plan of activities and discussions to help address those topics. Mainly classification and learning how things are similar and different, and we also explored the concept of how things are connected to each other.</p> <p>I told the kids a little bit about myself and my training, how to become a forester. Mrs. Reznik was very interested in illustrating the kinds of skills and aptitudes you might need as a forester, to show kids how it might apply to them and their interests.</p> <p>I briefly showed the kids my cruise vest, a compass, caulk boots, hard hat, maps and the ipad mini. I explained how I use these tools in my job. We talked about gathering data, measuring things and identifying plant and animal species, soils and other environment characteristics.</p> <p>I also did an exercise where I drew a picture of a worker who wanted to harvest a tree in the forest, and all the things that person had to think about before the even left the office, let alone harvest the tree. We talked about stakeholders, plant and animal species (endangered and not), water features and their protection, engineering, bridges, and building roads. It was my intention to show the kids that a lot of effort and planning go into our process, and we are not just cutting down trees. We talked about replanting as well.</p> <p>We went outside in the rain and looked at a culvert than runs beneath the field, how erosion was affecting the playground surface and then walked to a wooded area where we gathered some fallen samples for tree identification.</p> <p>Our wrap up was a short game where the students chose a component of the environment and we passed flagging tape to physically show how they are connected. Animals need water, trees need water, trees are food, some animals are food, plants are food, soil bacteria is a decomposer... etc. I feel like they got a real sense of how interconnected all the elements were.</p> <p>I left Mrs. Reznik with quite a few resources. I found a tree ID book I was able to leave, some worksheets, coloring pages and a list of web resources. I made up a bag for each of the kids with some stickers, worksheets, pencil, balloon etc.</p> <p>I think it was a successful endeavour</p>	



<b>TEACHER NAME:</b> Dominique Dubeau	<b>FORESTER NAME:</b> Marie-lou Lefrancois
<b>SCHOOL DISTRICT:</b> # 54 (Smithers, Houston, Telkwa)	<b>SCHOOL:</b> Muheim, Smithers
<b>GRADE(S) INVOLVED:</b> 4-5	<b>FIELD TRIP OR CLASSROOM LESSON:</b> both
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)	
We discussed in the class for about one hour and then went for a walk and cored a tree. All in French (it's a French immersion school)	
<b>SCIENCE CURRICULUM TOPICS COVERED</b>	
Classroom	
<ul style="list-style-type: none"> <li>• Co-evolution of humans and trees (brain development due to monkey climbing trees...)</li> <li>• Similarities of human and plant behavior by exploring the roles of:</li> <li>• Mycorrhizae</li> <li>• Pheromones</li> </ul>	
Outside:	
<ul style="list-style-type: none"> <li>• Seasonality/phenology and phenotypes</li> <li>• Species assemblage and growth function of environmental variables (valley, exposure, soils) and stress</li> </ul>	



<b>TEACHER NAME:</b> Belinda Andujo	<b>FORESTER NAME:</b> Mike Davis, RPF
<b>SCHOOL DISTRICT:</b> #70 (Alberni)	<b>SCHOOL:</b> Wickaninish Elementary, Tofino
<b>GRADE(S) INVOLVED:</b> Kindergarten and Grade 1	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Classroom and School Field
<p><b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)</p> <p>We started with examples of things that are made from wood that I brought into class or that were found around the classroom. Next we talked about where wood comes, made a list of reasons that trees are important and watched a YouTube video (Albert and Junior - Why Do We Need Trees? <a href="https://www.youtube.com/watch?v=o1B5wMF3n0I">https://www.youtube.com/watch?v=o1B5wMF3n0I</a> ). Finally, we went out in the school field to identify trees and plants in the surrounding area and collect samples to keep in the classroom.</p>	
<p><b>SCIENCE CURRICULUM TOPICS COVERED</b></p> <p>Kindergarten:</p> <ul style="list-style-type: none"> <li>• Process of Science - Use the five senses to make observations and share information obtained by observing</li> <li>• Life Science - Describe features of local plants; Compare local plants</li> <li>• Properties of Objects and Materials - Describe properties of materials including colour, shape, texture, size, and weight; Identify materials that make up familiar objects</li> <li>• Earth and Space Science - Demonstrate the ability to observe their surroundings; Describe features of their immediate environment</li> </ul> <p>Grade 1</p> <ul style="list-style-type: none"> <li>• Process of Science - Communicate their observations, experiences, and thinking in a variety of ways; Classify objects, events, and organisms</li> <li>• Life Sciences - Classify living and non-living things; Describe the basic needs of local plants and animals</li> </ul>	



<b>TEACHER NAME:</b> Ryleigh Jacobs	<b>FORESTER NAME:</b> Teacher led
<b>SCHOOL DISTRICT:</b> SD #33 (Chilliwack)	<b>SCHOOL:</b> Unity Christian Elementary
<b>GRADE(S) INVOLVED:</b> Grade 6	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Classroom
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)	
Used the Teacher Resource Kit for tree identification, etc.	
<b>SCIENCE CURRICULUM TOPICS COVERED</b>	
<p>I actually focussed on the Socials curriculum in grade 6 with the following items:</p> <ul style="list-style-type: none"> <li>• Develop a plan of action to address a selected problem or issue</li> <li>• Make ethical judgments about events, decisions, or actions that consider the conditions of a particular time and place, and assess appropriate ways to respond</li> <li>• Take stakeholders' perspectives on issues, developments, or events by making inferences about their beliefs, values, and motivations</li> <li>• Differentiate between short- and long-term causes, and intended and unintended consequences, of events, decisions, or developments</li> </ul>	

<b>TEACHER NAME:</b>	<b>FORESTER NAME:</b> Nakusp and Area Community Forest
<b>SCHOOL DISTRICT:</b> SD #10 (Arrow Lakes)	<b>SCHOOL:</b> Nakusp Secondary and Elementary
<b>GRADE(S) INVOLVED:</b> Grade 9-10 and Grade 5-6	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Field Trips
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)	
<p>Tuesday event – outdoor soil sampling labs with Nakusp Secondary School science 9 and 10 classes. Students dug soil pits and we demonstrated how to texture and classify soils, discussed soil processes and chemistry and sampled for different nutrients using basic soil chemistry kits.</p> <p>Wednesday event – NACFOR lead a full day hike on the 4 km Jackrabbit Interpretive trail for NES grade 5/6 students. Students collected samples and identified trees along the trail, we discussed different forest values (ecological, economical, types of forest products, recreational and cultural) and invasive species and how they differ from native species.</p>	
<b>SCIENCE CURRICULUM TOPICS COVERED</b>	
Chemistry, forest succession and ecology	



<b>TEACHER NAME:</b>	<b>FORESTER NAME:</b> Eric Scott
<b>SCHOOL DISTRICT:</b> SD #44 (Powell River)	<b>SCHOOL:</b>
<b>GRADE(S) INVOLVED:</b> Grade 4	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Field Trip
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)	
<p>The FLNRORD office in Powell River has been putting on Forestry Tours for grade 4 students for many years. The event involved bringing the students out to a hiking trail not too far outside of the City of Powell River. This trail has been established with many stops along the way which talk about the forests and forestry history in Powell River area. It great as it gets the kids outdoors and teaches them some interesting facts relating to forestry.</p>	

<b>SCIENCE CURRICULUM TOPICS COVERED</b>	
Various biology topics and non-curriculum topics	
<b>TEACHER NAME:</b> Lila Armstrong	<b>FORESTER NAME:</b> Teacher led
<b>SCHOOL DISTRICT:</b> SD #72 (Campbell River)	<b>SCHOOL:</b> Ecole Willow Point
<b>GRADE(S) INVOLVED:</b> Grades 3-4	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Field Trip
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON</b> (including topics covered)	
<p>We walked to the forest, played, and our expert RPF talked about forestry, the parts of forestry, products made from wood, showed how to measure appropriate distance from a creek, and participated in a forest scavenger hunt.</p>	
<b>SCIENCE CURRICULUM TOPICS COVERED</b>	
Ecosystems and interdependence	



<b>TEACHER NAME:</b>	<b>SCOUT LEADER NAME:</b> Colleen Koustas
<b>SCHOOL DISTRICT:</b>	<b>SCHOOL:</b> Scouts event Minnekhada Regional Park – Port Coquitlam BC
<b>GRADE(S) INVOLVED:</b> 27 Scouts ages K-2	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Field trip to ponds in park
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON (including topics covered)</b>  Our Beaver group is having one of our weekly meetings at Minnekhada Regional Park. We have the booked two interpreters from Metro Vancouver Regional Parks to lead a nature walk for our group and discuss a variety of topics covering creatures/life found in the forests and ponds.  We should have opportunities before and after to include some information about National Forest week to our captive audience of Beaver kids and volunteers.	
<b>SCIENCE CURRICULUM TOPICS COVERED</b>  Creatures of the forest and ponds	

<b>TEACHER NAME:</b>	<b>FORESTER NAME:</b> 30 North Island Forest Professionals (FLNRORD, BCTS, SNRC, WFP)
<b>SCHOOL DISTRICT:</b> North Island	<b>SCHOOL:</b> 400 students from schools in Port McNeill, Port Hardy, Port Alice, Fort Rupert, Tsulquate, Sointula, Alert Bay, Quatsino
<b>GRADE(S) INVOLVED:</b> Preschool, Kindergarten, Grade 1, Grade 2, Grade 3, Grade 4, Grade 5, Grade 6, Grade 7	<b>FIELD TRIP OR CLASSROOM LESSON:</b>
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON (including topics covered)</b>  Events held over a 2 week period covering: <ol style="list-style-type: none"> <li>1) Rivers Day Predator Awareness Booth (1 forest professional)</li> <li>2) Classroom Visits - Wildfire Presentation (Smokey the Bear + 30 forest professionals)</li> <li>3) Forest Hike - Ecological Education and UAV demonstration (4 forest professionals)</li> </ol>	
<b>SCIENCE CURRICULUM TOPICS COVERED</b>  Predatory Wildlife Awareness, Wildfire Science, Forest Ecology	



<b>TEACHERS NAMES:</b> Michelle Crewe, Paul Lammens, Shelley Desbrisay	<b>FORESTER NAME:</b> Klay Tindall
<b>SCHOOL DISTRICT:</b> Sea to Sky	<b>SCHOOLS:</b> Xet'olacw Mount Currie, Myrtle Phillips Whistler
<b>GRADE(S) INVOLVED:</b> 4,5,6	<b>FIELD TRIP OR CLASSROOM LESSON:</b> Both, in all 3 cases
<b>BRIEF DESCRIPTION OF FIELD TRIP OR CLASSROOM LESSON (including topics covered)</b>  Items covered include: <ul style="list-style-type: none"> <li>• Employment (jobs) in the forest industry, specifically locally.</li> <li>• Explanation of sustainable forest management- asking the students to name additional values worth protecting in the forest and then “removing” these areas from the total forest area model. Showing that foresters only then work in the smaller THLB and that the reaming areas are “protected”.</li> <li>• Explaining how sustainable forestry works. By harvesting the oldest trees, the younger ones grow &amp; fill the gaps, allowing for a sustainable forest resource.</li> <li>• Then reviewing the tree species with the classes in the field. Getting some of the classes to bring back samples of trees they know (needles, bark, cones) and explaining how they know it is that specific species.</li> <li>• I left the seeds, tree information &amp; wood samples with the teachers for a couple days to present them to their classes as well.</li> </ul>	
<b>SCIENCE CURRICULUM TOPICS COVERED</b> <ul style="list-style-type: none"> <li>• Making observations (looking at &amp; identifying specific tree species) about their local environment.</li> <li>• Discussing First Nations perspectives on protecting values</li> <li>• Identify social, ethical &amp; environmental implications of forest management</li> </ul>	
<b>TEACHER/STUDENTS COMMENTS REGARDING SATISFYING PLO's</b>  Everyone seemed to enjoy a guest speaker. They enjoyed learning about nature and enjoyed going outside.	