

Tall Trees

Tall Trees Grade 5

Learning Outcomes:

Grade 5 Life Sciences: B.C.'s Living Resources

- identify living resources in the local environment
- collect, analyze, and interpret data on environmental quality
- devise a strategy for sustaining a living resource
- describe how humans use BC's living resources

Grade 5 Social Studies:

This excursion contributes to learning outcomes such as:

- analyze the relationship between the development of communities and their available natural resources (Economy and Technology)
- demonstrate an understanding of the concepts of sustainability, stewardship, and renewable versus nonrenewable natural resources (Environment)

When:

This excursion can take place at any time of year.

Materials List:

- 15 blindfolds
- bulldozer newspaper article with 3 photographs
- 8 tree bark pictures
- 7 fabric pieces
- 5 historic photos
- *Transforming Tree Treasure Hunt* sheets, one per pair
- crayons, one per pair

Activities

1. Meet a Tree

Where: The Alder Grove

Time: 20 min

Why:

- focuses students on trees in a fun, friendly way

Materials:

- blindfolds



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How:

This is a story-based activity, so have fun with it. The basic story is below, but feel free to add, subtract and change the story to fit your own style.

"I want to tell you about something strange that happened to me the other day when I was here, right in this spot. I was just looking up at the leaves and listening to the sound of the wind as I walked along, when I heard a different kind of sound. It was a sort of humming, and it was getting louder. I stopped, and looked around—and then I saw it. A silver globe, coming towards me through the air! It came down, among the trunks of the trees, and hovered above the ground while I stood here, amazed. And then a door opened, and a funny creature stepped out.

"It was grey, with big pink fuzzy ears, and an orange nose, a long blue tongue, and four black tentacles on each hand. It had no eyes at all. And as I watched it, it walked right up to the biggest living thing nearby. What was that? Right—a tree! And it sniffed the tree with its orange nose, and it pressed one pink fuzzy ear against the bark and listened, and then it tasted the tree with its long blue tongue. And then, it wrapped its tentacles around the tree, and just stood there quietly for a while. When it started to go back to its spaceship, I said, "Wait! Tell me what you are! And what were you doing with that tree?" And so it told me.

"It said it was a Grok, from a planet of fog, where there is nothing to see. In fact, there is nothing but other Groks there. Just fog, and Groks. So the Groks get bored, and they zoom off in their spaceships to other planets to make friends. "Who will you visit on Earth?" I asked. "You just saw me", it replied, "visiting my friend the alder tree. "With that, he got back into his spaceship and hummed away.

"Well, I wondered about that, and today I'm ready to try an experiment. I thought that we could pretend to be Groks, to see what making friends with trees is all about. I have some blindfolds with me, because remember, the Grok had no eyes. Here's how we'll do it. First, I need a volunteer."

Demonstrate the activity with the volunteer student. This is an important step, because blindfold activities are disorienting to begin with. The demonstration helps enormously with the safety aspect too. Blindfold your volunteer partner, and turn her around a few times before you head off. Demonstrate how to lead gently by the elbow and hand of one arm. "Not like this (get behind and push) or like this (pull your partner from the front),

The proper way to lead a partner



but like this." Lead your partner to a tree, and put her hands on it. "Now she has to find out everything she can about the tree without using her eyes. She can feel it for any bumps and branches, sniff it, listen to it, and she can even taste it if she likes. Then I bring her back here again, in a few curving route, ask her to step over an imaginary branch or two, and generally mix up her sense of direction (turn her around again). Because when I take off her blindfold, guess what she has to do? Right—she has to find her own tree! And once she has found it, then switch partners".

Now it's time to set boundaries (especially important for this involving activity), and ask them to find a partner. Hand out the blindfolds, and away they go. Watch for the pushing and pulling, especially at first, and remind them how to lead a blind person. Call out occasionally as you move about: "Does your tree have a distinctive smell?" "Who has tasted their tree?" "How big around is it? Can you shake it?" "Can you hear the sap running under the bark?" "How is your tree feeling?" "Is it sad or happy?" "Are you tickling it?"

When you see that a few pairs have switched and the other partner is wearing the blindfold, call out to the others that they should be almost ready to switch too. And as you get closer to wrapping the activity up, call out "Three more minutes! Two more minutes"—until you have the group together once

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again and you can ask, “How many people found their tree? Great! Jasmine, how did you recognize yours?” Sometimes ingenious techniques come to light, and the stories of imaginary logs that needed stepping over can be very funny. But the sense of connection that students now feel with the trees will shine out, and it’s good to share the glow.

Next Stop:

Walk along the trail past the soccer field with the pure stand of alder trees to your right. When you reach the point where the pure alder stand ends and a mixed forest of different types of trees of different ages begins, stop.

2. Bulldozer



Photo from Province newspaper

Where:

Start this activity where the pure alder stand ends and a mixed forest begins

Time: 5 minutes

Why:

- a real story of islanders confronting bulldozers to save trees.

Materials:

- newspaper clipping with 3 photos: the bulldozer, the confrontation, and the cleared forest.

How:

“Something special happened here to do with trees some years ago. Look around and tell me what you notice about the forest. Are there only small alder trees, as back at our last stop?”

Students will notice that they are standing at the border of the pure alder stand. If they need a hint, ask them to look across the trail too.

Ask them if they can guess which is the younger forest. “Right, Jamie—the alders are. See all those skinny trunks, and how they are all about the same height? In our rainforest ecosystem, alders are the first trees to sprout after forests are cleared or soils are disturbed. This stand of alders all sprouted up

together after something happened to the forest. Any ideas about what it could have been?

“Let me read from an article in the Province newspaper from back in 1977 (read the marked sections of the article, and pass around the bulldozer and confrontation pictures).

“So people who were concerned about the forest stopped that bulldozer, even though they were afraid that they might be hurt. Then the government realized that something was wrong and stopped the house building project. It all happened just up here where the schoolyard is today. That’s why we still have a forest today all around Killarney Lake and around our school.

“These alder trees are growing where clearing had begun the year before.” Show the cleared forest photo. “You can see the trail where we are standing today up on the left and Miller Road on the right. This photo was probably take from where the pile of tires near the soccer field is today. Protestors stopped the forest clearing that time too. Back then, demonstrations were a useful strategy for sustaining a living resource. Those people knew that removing the forest would damage the island’s environment. When we get back to the classroom, we’ll devise our own strategy” (or whatever works for you to link this in to this prescribed learning outcome).

Next Stop:

Follow the trail as it loops behind the school to the point where it meets the trail down to the park. Stop just before the junction, where you can see only a glimpse of the Snake Field.



3. Tree ID

Where:

Start at the trail junction just before Snake Field

Time: 20 minutes

Why:

- students identify forest resources (trees) and assess environmental quality

Materials:

- 8 bark pictures
- 7 fabric pieces

How:

It's important for this activity to be as close as possible to the location in the photo inset into the map. Students will have to find trees to match the cards, and all seven species can be found here. Check the map for detail.

Part 1:

"We got to know some young alder trees at our first stop. Now it's time to meet some other kinds of trees." Divide the class into seven groups and give each group a bark pictures (large colour photographs of bark). Hold back the duplicate (marked extra) in case one group can't find their kind of tree. Give them lots of room as you set the boundaries—say the edge of the Snake Field and other landmarks at the limits of your sight. The task is for each group to find a tree that matches their bark picture. You have secret clues that they don't have in your trail map brochure, by the way.

Some groups will find their trees right away. Check their ID using your secret clues, and if they have it right, ask them to see how many of that type they can find while the other groups are still looking. If groups are having trouble, feel free to share clues with them.

tree so they can continue with the next part of the activity.

Part 2:

"Now you know them by their bark, but what about their other features? In a moment, I'm going to ask each group to go back to their tree, and to put the bark picture on the ground beside this piece of fabric (hand them out). Find a twig with needles and some cones that you are sure come from your tree and lay them neatly on the fabric to make a display. When we're all finished, we'll visit each group's display so that we can all get to know all the kinds of trees at this spot."

As before, mingle and admire, asking questions, dropping clues, making observations and encouraging the groups to check each others' displays as they work. When they are ready, lead the grand tour.

"What do you think it means that we have been able to find so many different types of trees growing in this small area?" Let the ideas come. "Yes, it's a good place for trees to grow. In fact, finding seven species of trees in a small area like this is unusual.

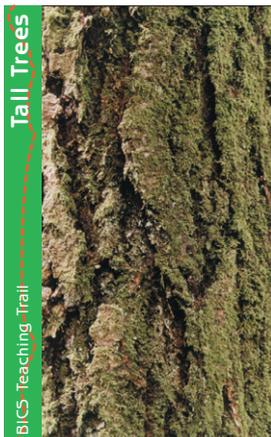
"Do you think it's a sign of a high quality natural environment or an low quality one?" You may want to ask for examples of low quality natural environments, such as school grounds, lawns, road edges, driveways. "Would places like those have many kinds of life in them (high biodiversity), or only a few? Right, Mary. Just a few kinds. So the number of kinds of life is an indicator of environmental quality. A high biodiversity such as we have found here with seven kinds of trees is a wonderful sign of a high-quality healthy environment."

Next Stop:

Hike down to the park trail and turn left towards the hatchery. Ask the class to help you find the notched tree on the right edge of the trail directly across from the rising rock cliff.



A bark picture



When all groups have found their trees, call them together to share experiences. "Aidan, tell us how your group found your tree!" If one kind of tree is not found, ask the whole class to help. Usually there are a few tree-savvy kids who can help. Or give the unlucky group the extra picture of the easily found alder

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4. Logging History

Where:

- the notched tree

Time: 10 minutes

Why:

- look at trees as living resources and how humans use them

Materials:

- A set of 5 historic Bowen photos, numbered in order relating to the example discussion below.

How:

The photographs were all taken on Bowen Island. I've provided some sample narrative below as usual, including some Bowen-specific information. Don't feel bound to it—it's just provided as an orientation and example for you. You will probably prefer to build in more student participation too.

The notched tree landmark is a good place to start. "Who can tell us why that mysterious notch is there?" Some may know that notches were cut to fit springboards into for the loggers to stand on while they chopped or sawed the tree down.

Springboards were used only out here on the West Coast, where the trees grow so much bigger than in the rest of Canada because of our rainforest conditions. The flaring butt of a big tree was generally tiresome to cut through, sticky with sap, hard to haul, too big for the mill, and sometimes rotten inside, so they learned to cut above the ground. The springiness of the board made the work of chopping and sawing easier, too. "But why is this tree still standing?" someone may ask. Good question!

Photo no. 1:



"Let me show you some pictures of the way this forest was logged close to 100 years ago. Maybe that will give us some clues. Here's one of a tree being cut using springboards. See how they worked? They had metal tips and were pounded into the notches so they could hold each person's weight. Then they could cut a notch with their axes, and then continue with a big crosscut saw.

Photo no.2:



"A hundred years ago, men used oxen and horses to haul tree trunks down to the sea, where they could be floated away to sawmills. So areas within walking distance of the sea were logged first. Are we within walking distance of the sea? Yes, we are. And because trees sometimes smashed when they fell on steep slopes, and were difficult for even the strongest oxen and horses to move, level areas to those with medium slopes were also chosen. Would you call this medium steep? Yes, me too—it's certainly not as steep as the North Shore Mountains.

"So this was one of the areas that was logged very early, when tools were simple and there were no powerful motorized vehicles. At this time there were lots of trees—in fact there were hardly any city streets or roads or even farms, let alone paper factories. So nobody wanted small trees, and nobody would buy them. Loggers took only the straightest, tallest biggest trees. Look at the size of this one that was cut here on Bowen in 1914. And look at the muscles on the horses!



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Photo no.3:

"To get these huge logs to the shore, loggers built corduroy roads of small logs that the big logs could skid along on as they



were pulled, so they didn't get snagged or plough through the soil. It was much easier to pull them on a skid road. You can see that this team of horses, the same team as in the previous picture, it looks like, has pulled that huge log out to the skid road and they are heading for the water. See the corduroy road that the horses are standing on?

Photo no.4:



"After the logs had been pulled to the sea, they were floated in log booms, ready for boats to come and tow them to the sawmills on the mainland. This is Snug Cove, full of logs. The steamship S.S. Baramba is docked where our ferry today docks.

Photo no.5:



"Sometimes big cedar logs or pieces of them were left behind in the woods. But they were not wasted. They were cut up into smaller blocks called shinglebolts, just the right size to make cedar shingles for roofs out of. On Bowen, it was usually Japanese men and boys who did this work, as in this picture.

"So let's see whether we can figure out this mysterious notch now. Are there two spring board notches in this tree? It took two people to use a big cross cut saw. Is the tree completely healthy, or are there rotten bits? How tall is it, or would you say that the top might have broken off some time ago? I'm not sure the loggers would have bothered to cut down this not-quite-perfect tree. Maybe they put one notch in, discovered it was not ideal, and left it to go cut down another more valuable one."

Sustainability: Here is some background to help you address this topic. By taking only the top quality trees and leaving all the rest, the early loggers left a healthy forest behind where more big trees could grow and all the other plants and creatures, including salmon in the creeks, could continue to thrive. Ask students to look around—the forest is still in good condition. Horses were easy on the environment too. They didn't tear up or compact the soil, damage younger trees or require destructive roads like big logging machines do. Some forests are being logged sustainably today as well, so that the home of this renewable resource (wood) is left in good condition to produce more and more wood. Some sustainable loggers are even using horses again, although not on Bowen yet.

Next Stop:

Continue along the trail, watching for a very small bridge with no railings. From this bridge, look up to see the tops of the ancient cedar snags looming above the bushes like totem poles, just to the right of the trail.

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5. Ancient Cedar Snags

Where:

- just past the tiny bridge, to the right of the trail.

Time: 10 minutes

Why:

- experience the surprising size of original trees

Materials: none

How:

An unstructured discovery stop. You may want to set a few safety rules, such as no climbing into holes that an adult couldn't get into. Let them explore and experience.



Some questions to ask as they poke around:

- “Why were these big trees and the smaller live ones all growing in a row?” (Probably they were all growing on the same nurse log. I wonder how big it was?)
- “What do you think was happening in the world when these trees first sprouted from seeds?” (These snags may have been about like this when the first loggers came. This means that they lived their long lives in this forest and died naturally, probably before any Europeans set foot here. Many heritage trees of this size are over 1000 years old.)
- “Which is the biggest around?” (They can measure by the number of students it takes to reach all the way around.)
- “How much bigger are these than living trees in this forest?”
- “How will this forest feel in the future when lots of trees are this big again, growing protected in Crippen Regional Park?”

You may want to return here another day to write stories or draw pictures about the forest world in past or future.

Next Stop:

Turn around and head back to the junction where the trail to the school leaves the park trail.

6. Transforming Tree Treasure Hunt

Where:

- junction where the trail to the school heads up from the park trail

Time: 15 minutes

Why:

- students find examples of ecology in action.

Materials:

- treasure hunt sheets and crayons for each student pair

How:

Excellent examples of nurse logs, stumps from early logging, and more can be found along this stretch of trail. They are usually unnoticed, but this activity inspires observation.

“We tend to think of trees as things that stuff happens to. Sure, changes happen to them. But they can also change their environment, like any other living thing. As we walk up this next stretch of trail, look for examples of the two kinds of tree changes on your sheet. Draw a line through the words as you find them.” (The crayon will rub off the laminated sheets later with dry paper towel.)

Ask the students to choose a partner. Set boundaries (stay on the trail behind Mrs. X and in front of Mr. Y), pass around the crayons and the sheets, and let them go.

At the top of the hill, find out who found

the most examples. Collect observations from students too, before you collect the sheets and crayons. Also ask them about something special they heard or learned—or felt—about trees today, or something they liked about the excursion.

You may want to form a circle and pass the leaf, so that the person holding the leaf says their bit and then passes the leaf on. It lends a bit of ceremony to polish and confirm a successful outing.



That's it for the Grade 5 Teaching Trails activities. Have fun!





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Other Suggested Activities:

- Visit the Logger's Cabin at the Bowen Museum and Archives to see old logging tools and catch the flavour of life in the woods back then.
- Try the Bulldozer activity in the teaching resources prepared by the Bowen Museum and Archives. More information and point-of-view articles will help you to meet more social studies learning objectives.
- Call the Bowen Museum and Archives at 604-947-2655 for more information and bookings.