Boardwalk Trail Activities

Written by Elizabeth Elston and Lisa Jensen

This series of activities is meant to be an educational resource for visiting teachers wishing to conduct a forest field study at Cheakamus Centre. It is recommended that the teacher pick and choose activities appropriate to the time allotted for the field study, taking into account that the walk itself takes approximately 1 hour without stops.

Guiding question for walk and talk to Station 1: What is natural and unnatural in our area? (Use sight, hearing and smell to identify.) Ask students to share their findings as a class.

Station 1 - Impacts
Station focus: Natural and unnatural components of the local area; human impact.
Estimated time: 15 mins
Materials: Conundrum cards
Activities: 1. Conundrum hunt a. Point to different plants and call them a conundrum plant. Observant students will be quick to point out that they can't have the same name because they look different. The teacher then asks why we learn about plants. (To remember their uses and connections to the rest of the environment.) b. Hand out conundrum cards to students. Students will spend 10 minutes finding the natural objects the conundrum cards describe. If they think they find the object, they whisper the answer to the teacher before they trade for another. c. Ask students if this activity affects how they look at the environment. Do they think people have uses for and connections to the natural world?

Guiding question for walk and talk from Station 1: How could humans make less of an impact while hiking in the forest? Share walk and talk findings, focusing on ways to reduce impact while hiking through the forest (take only pictures, leave only footprints).

Station 2 - Trees
Station focus: Differences between deciduous and coniferous trees.
Estimated time: 10 mins
Materials: Excerpts from *Tree Book: Learning to Recognize Trees of British Columbia*

Activities:

1. Ask students if they know the meanings of deciduous or coniferous. How are these trees different?
2. Have students conduct a visual scavenger hunt on-trail by searching for clues to find evidence of deciduous and coniferous trees in the area. Discuss findings as a class.
3. Show pictures of different tree species found in the area.

Guiding question for walk and talk from Station 2: Which species of trees can you find during our walk?

Station 3 - Birds
Station focus: Common bird types
Estimated time: 15 mins
Materials: Charade cards
Activities: 1. Bird charades (13 mins) a. This activity can be done with the whole class together or divided into groups depending on the comfort of the students. b. Hand out bird information cards to student volunteers which are kept secret. c. The students use information from the card to act out their bird, and other students must guess the bird species. d. When guessed, the student actor tells the class the behaviour they were imitating. (Eg. *The barred owl can fly silently* or *The heron uses its long neck to hunt for fish.*) Bird species can be repeated for a different behaviour. 2. Have students guess the needs contained in the riddle box at the station. (2 mins)

Guiding question for walk and talk from Station 3: Listen for different bird calls as we walk. Do a fist listen (counting using fingers) for the number of calls you hear.

Station 4 - Tracks
Station focus: Track identification
Estimated time: 15 mins
Materials: Animal track cards
Activities:

1. Animal track jigsaw
    a. Each student receives one card and has to try to find another student with the matching card, a pawprint belonging to the same animal. Keep in mind that some animals have different front and back feet patterns!
    b. After finding the correct match, the pair of students try to identify together which animal they have, providing evidence to support their claim.
    c. Share discoveries as a class.

Guiding question for walk and talk from Station 4: We just used our sense of sight to figure out the different animal prints. How can the other senses be used for tracking?

Station 5 and 6 - Streams and Fish
Station focus: 1) Salmon find their way upstream to their spawning grounds using their sense of smell 2) Effect of stream water depth on survival
Estimated time: 15 mins
Materials: Found dead forest objects ● Examples: Leaves, soil, loose moss, branches, grasses Water depth meter stick (permanently installed in stream)
Activities: 1. Salmon Nose (10 mins) a. Students cover their eyes with their hands while the instructor quickly chooses a dead forest object with a discernible scent. Crush the object between the fingers to release its full aroma. b. The instructor then circulates so that each student smells the item with their eyes still covered. No peeking! c. The sniffer has to try to find the exact same scent in the area and identify what it is in 2 minutes. d. Gather students together and identify the object. Repeat process with another object.To increase the difficulty, choose subtle scents. e. Discuss how, similar to the forest objects, each stream has its own unique smell, which salmon use to return to their stream of birth. 2. Water depth meter observation (5 min) a. Show the class the water depth meter stick. Have them guess what it is studying for (stream water depth affecting salmon survival). Ask students why water depth would affect the survival of salmon.

Guiding question for walk and talk from Station 5 and 6: What other factors do you think affect the survival of salmon travelling in streams?

Stations 7 - 10 (Boardwalk)
PLEASE NOTE: The boardwalk is narrow and as such, there are no large teaching areas in which to to gather students. The following activity can be used throughout the entire boardwalk, rather than having an activity at each station.
Boardwalk focus: Scavenger hunt for evidence of biodiversity
Estimated time: 10 minutes (while walking along the boardwalk)
Materials needed: Biodiversity Clues laminated cards
Activities: 1. Scavenger hunt using Biodiversity Clues a. Distribute one clue to each student. b. Instruct students to look for their clue while they are walking through the next several stations. c. If desired, students can work in pairs to help each other find their clues and to foster discussion along the walk.

Station 9 - Beaver
Materials needed: Piece of wood cut down and chewed on by beaver
Focus: Beaver facts- habitat, diet, adaptations, dam building
Estimated time: 5 minutes
Activity: Discuss key beaver facts from station sign through Q&A with students.

Between Station 9 & 10 - Red-Breasted Sapsucker
Focus: Holes in rotting trees created by Red-Breasted Sapsucker
Estimated time: 5 minutes

Activity**:** Observe the holes made by the red-breasted sapsucker in the rotting trees on the right hand side of the boardwalk. Notice the linear pattern of the holes. Students can read the information sign along the boardwalk.

Station 10 - Microland
Focus: Observation from different perspectives (micro perspectives)
Estimated time: 10 minutes
Materials needed: Cue cards and pencils (one per student)
Activity: 1. Zoom In (weather dependent - challenging to draw if raining) a. Distribute one cue card and pencil to each student b. Have students line up along the boardwalk so that everyone can observe part of the tree root ball or another plant c. Students draw their observations of a part of the tree root-ball or plant. (It doesn't have to be a brilliant work of art, just some observations on paper). d. Then students pick one part of the root-ball or plant (like some moss or a root) to zoom in on and do a close-up drawing. e. What do you notice in microland? (Observations can include words in addition to the pictures.)

Station 11 - Geology
Station focus: Interaction of biotic and abiotic components of soil, origins of soil
Estimated time: 15 mins
Materials needed: Magnifying lenses on lanyards for each student
Activities: 1. Finding soils in the forest a. Ask students what they think soil is and where it is found. Many students will say it is only in the ground, which should prompt the teacher to ask where soil comes from. (Soil can be found in rotting stumps and logs, so it has biotic as well as abiotic origins.) Ask students how they think soil changes in different locations.

b. Have students prove that soil varies in composition in different locations by fanning out with magnifying lenses and searching for 5 mins for different kinds of soils. This is the only activity in which students are permitted off-trail, so make sure to set firm boundaries. Ensure students put lanyards around necks to prevent loss of lenses.
c. Discuss findings in partners and then as a class.

Guiding question for walk and talk from Station 11: Are there other factors in the environment that would affect soil in the forest? (Think of the forces at work here.)

Station 12 - Water
Station focus: Water changes the local geography
Estimated time: 20-25 minutes
Materials needed: Large map of Cheakamus River Portable whiteboard and marker Pads and pencils for each group of 3-4 students
Activities: 1. Show students the map of Cheakamus River. Ask them what this map is showing, and how they think this has changed the environment of the area. Write down ideas on the board in one column. 2. Ask students how they think humans have affected the environment in this area. Write down ideas in a second column. 3. Divide students into groups of 3-4. Each group will use select words from the whiteboard to make up lyrics for a short chant or song comparing/contrasting the impact of water and humans on the local environment. Assign tasks for recorder and time keeper. Tell students that lines with a similar number of syllables in each line will work best for lyrics. Read and display example verse: *The river changes its direction* *Now I see silt in this section* *Humans build so many dykes* *What I see makes me go, "Yikes!"* 4. Share as a class, encouraging cheering and applauding all groups. or Greet a tree (Rediscovery, pg. 176)

Guiding question for walk and talk from Station 12: Find a partner who was not in your group and share your song with them.

Resources

Henley, T. (1989). *Rediscovery: Outdoor Activities Based on Native Traditions.* Vancouver, BC: Lone Pine Publishing.

Binder, D., Guy, S., & Penn, B. (1995). *Backyard Biodiversity & Beyond.* Victoria, BC: Province of British Columbia and Canadian Heritage.

The Lawrence Hall of Science (2014). *Beetles: Science and Teaching for Field Instructors.* Berkeley, CA: The University of California