**Activity title:** Developing a sense of place with preservice science teachers

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**Justification:**

This target population for this lesson is not the standard undergraduate science student. Rather, it is designed for students who are studying to become elementary teachers. Often, elementary teachers, feel alienated from science and do not desire to investigate science or take on scientific endeavors. The science instruction that most elementary teachers receive has been disconnected from not only their personal lives but also from the work of real science and is usually carried out in a recipe like fashion (Plevyak, 2007). Sobel (1998) describes the problems with the typical recipe-like approaches and memorization utilized in schools cuts us off from our everyday experience and tells us “important things are far away…the local community and environment are unimportant and negligible” (p. 7). This leads to a professional dichotomy of wanting to teach science in innovative ways, but they lack the requisite personal and professional connections to science to make this a reality (Gilbert, 2009). To this end, this lesson works to develop a *sense of place* concerning preservice teachers’ immediate environment and build connections between science and self.

**Description of Activity (narrative process description):**

The lesson calls for 2.5 – 3 hour class session.

*Phase one (0- 70 minutes):* *Walking the terrain*

* The class will convene outside for a walking tour various parts of campus and take stock for the varying types of ecosystems and mapping those areas on campus maps that will be provided. The class will meet at the North end of Red Square and walk to the beach at the southern end of Mudd Bay (Eld Inlet). In all, an uninterrupted walk would take approximately twenty minutes or so. However, we will be stopping and observing along the way.
* Students will be placed into six teams of three. The teams will need to keep track of our route on the Evergreen Trail map and be cognizant of scale as we walk toward the Sound.
* During the walk, we will stop at two locations (opening in forest canopy, and a stream location) and students will make sketches of any features they find interesting or something they would like to remember. I am not placing any parameters here on what or how they need to represent these locations…the goal is to get them just to look and notice. I will be scaffolding and directing students to particular features (rocks, animal trails, tree types, bird types, habitats, etc.). In this sense, I will be modeling how scientists view their surroundings with focus and intention.
* Students will need to mark the exact location of their field sketch sites on their trail map. They will also keep all sketches, notes in a field notebook. Some may also wish to take pictures of certain features, which will be allowed only after they have sketched and made all observations in their field notes. I want to intentionally focus them on using their tools of perception as opposed to relying on their camera phones.
* When we reach the sound, students will be asked to write a short reflection for their thoughts of their exploration from campus to the sound. There are a number of parameters that could be focused on in this writing. For my purpose, I am planning to ask about any personal connections or interests because I am intentionally trying to connect students to our campus environs. This is a goal of nurturing a “sense of place.”

*Phase two (70 – 90 minutes): Mapping the beach*

* After a reflective writing…we will walk from the south trailhead (on the beach at Eld Inlet) to the northernmost trailhead on the attached map. This will cover approximately 500m of beach along the shore.
* After a quick survey of the beach, student groups will construct a plan view maps of the area using estimates of distance between trailheads (500m) and each group will have 10m measuring tapes to assist in estimating the width of the beach. They must try to draw this to scale.

*Phase three (90 – 120 minutes)…looking up-close*

* Find an area of the beach that interests the group. Locate and mark the area on the beach map they just constructed (although working in teams, each student will be expected to construct their own maps and observations on their graph paper).
* The groups need to create a 1m square grid and mark corners with flags.
* Groups must create detailed observations within the grid and provide as much detail as possible (rocks, size of rocks, any trace of animals, patterns, the more detail the better)
* They will need help in looking closely so make sure to move from group to group and provide them with some questions to focus their attention. This can be a challenge when they are spread out.
* After about twenty minutes call the groups together to give them the next challenge.

*Phase four (120 - 150 minutes)…stepping up the scale*

* This next challenge will be to find another area where we will observe an area of 10m x 10m (repeat the ideas from phase three). They will again be expected to make as many possible observations for 20 minutes. One essential stipulation is that their 10m square must include the shoreline (or mud line if low tide).

Be sure to save enough time to return to the classroom by the end of the class period. The final thirty minutes are reserved for our walk back to the campus classroom.

**References:**

Gilbert, A. (2009). Utilizing science philosophy statements to facilitate K-3 teacher

 Candidate’s development of inquiry-based science practice. *Early Childhood*

 *Education Journal,* 36(5), 431-438.

Plevyak, L. (2007). What do pre-service teachers learn in an inquiry-based science

methods course? Journal of Elementary Science Education, 19, 1–14.

Sobel, D. (1998). *Mapmaking with children: Sense of place education for the*

*elementary years*. Portsmouth, NH:Heinemann.