



LESSON PLAN: Soil Order Competition

Introduction:

There are many different types of soils in Canada, all with their own unique characteristics. In this lesson, students learn about the different types of soil found all over Canada by selecting one type of soil to learn about, and sharing that information with the class in the style of a competition for “Canada’s Best Soil”.

Prescribed learning outcomes (PLO) are content standards for the provincial education system; they are the prescribed curriculum. The "Soil Order Competition" lesson plan will help students to achieve the following BC PLOs¹:

- Earth Science 11 – Surface Processes and the Hydrosphere (F1-F3)
- Geology 12 - Surface Processes and the Hydrosphere (F1, F4)
- Geography 12 – Themes and Skills (A2-A4); Gradational Processes (C1-C3); Weather and Climate (D2, D5-D7); Biomes (E3); Resources and Environmental Sustainability (F1, F2)

Learning Objectives:

- Know that there are multiple levels of soil classification in the Canadian Soil Classification System, with soil Order being the largest scale.
- Name all 10 Canadian soil Orders.
- Become familiar with at least one soil order in detail.

Materials:

- Computers with internet access to the online videos at: <http://soilweb.landfood.ubc.ca/classification/>
- Scrap paper and hat or bucket

Activity Description:

The Canadian Soil Classification System classifies soil at 5 main categorical levels: Order, Great group, Subgroup, Family, and Series. The soil Order is the most general grouping (ie. largest scale category), and there are a total of 10 Orders in the Canadian Soil Classification System. Each Order is distinct from one another due to differences in soil formation processes, and each has an interesting set of characteristics that distinguish it. A compilation of videos describing the different Orders can be found online at <http://soilweb.landfood.ubc.ca/classification/>. This activity uses these videos as a teaching tool for students to explore and extract information from in order to learn about a given soil Order. Students will then practice using their persuasion skills as they try to convince the class that their soil Order is “the best”.

¹ Please consult the appropriate Integrated Resource Package (IRP) to identify the PLOs. A catalogue of the BC Curriculum Documents (including IRPs) can be found here: <http://www.bced.gov.bc.ca/irp/all.php?lang=en#>

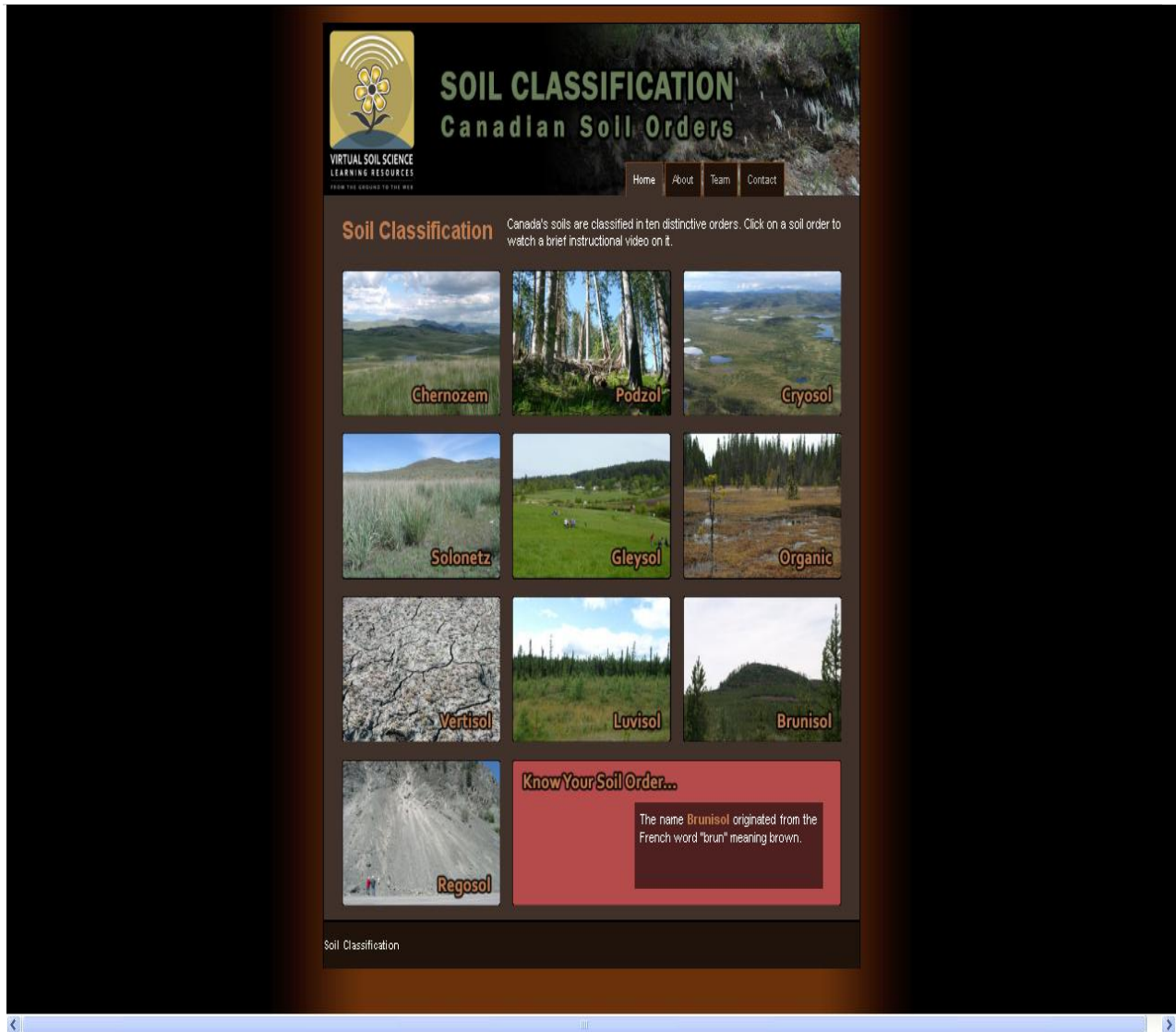


Figure 8. Homepage for the Canadian Soil Orders online video compilation.

Begin by outlining the 10 Orders very briefly (a basic outline can be found here: <http://www.soilsofcanada.ca/orders/index.php>) and providing some examples of where these Orders can be generally found around Canada. Introduce students to the online “Canadian Soil Orders” videos (the homepage is shown in Figure 7). Have them come up and blindly select the name of a soil Order from a hat. Get students with the same Order to group together, and then tell them that you are going to hold a mock competition for “The Best Soil Order in Canada”. As a group, they must come up with a presentation for their soil Order to try to make a case for why it is “the best” soil in Canada. They should use the online “Canadian Soil Orders” videos, as well as any other information they can find about the Orders, to inform their arguments. They should hit the following points in their description (feel free to use your own ideas here, too):



- Appearance – what does the soil look like, how is it “stylish”
- Value – notable ecosystem services or land use
- Uniqueness – something else interesting, bizarre, or somehow notable that is specific to that Order

In a future class, students will come back with their presentations and make the case for their soils. At the end of the presentations, have everyone cast a vote as to what their favourite Order was, specifying that they cannot vote for their own Order! The winning Order may receive some sort of fun prize. The silliness of talking about different types of soil as if the soils are in some sort of pageant or talent show can be very entertaining to students.

Having the students present in front of each other helps the students to gain more exposure to all of the Orders. To have students learn about more than just one Order in detail, follow up the Soil Order Competition by getting them to select two more Orders (either by random selection or by choice) as well as a land use (again, either random or by choice). Some land use ideas include: park, forestry, wildlife reserve, agriculture, highway construction, etc. Then, have the students individually prepare a short write-up comparing the suitability of their two soil Orders for that particular land use. Which Order is better suited to that land use and why? This will get students to think about the characteristics of 3 soil Orders in detail, with some exposure to the 7 others through the class presentations.