# Lesson Plan

| **Lesson Plan:** | **Course:** |
|---|---|
| **Subject / Course Reference:** | |
| **Topic:** EngScape and Disciplines of Engineering in Canada – connection to Written, Oral and Media literacy, as well as unit requirements. | |
| **Lesson Title:** Navigating EngScape | |
| **Grade:** | **Duration:** 1 hour and 15 minutes |

**Lesson Objectives:**

1. For students to apply media literacy skills to navigate and find information off of EngScape (online resource);
2. To learn more about the different engineering disciplines available throughout Canada on EngScape; and
3. To effectively communicate, both orally and in writing, their findings from EngScape and how the information found can be applied to their everyday lives and society.

**Note For Educator:**

-you will need to photocopy attached worksheet for students to complete (one per group or one per student – will be handed in for participation / completion marks)
-a large chart will need to be created ahead of time (chart outlined in Part 2 of this lesson plan)—we suggest on parchment paper or large chart paper
-this lesson plan can be used in addition to other engineering / curriculum activities such as circuit labs or units on technology.

**Summary of Tasks / Actions:**

*Task 1*

PART 1 (20 minutes)

Students will receive a sticky note for an introductory activity. Students will write what they *think* they know about engineering. Students will keep these sticky notes with them until the end of the lesson. Teacher will restate that there is no right or wrong answer.

Students will be divided into groups and will have to navigate the EngScape website. Students will see a list of types of engineering *disciplines*. Some disciplines might sound familiar to them, others will not. Without students clicking on the discipline, have them choose one from the list that sounds interesting to them by name.

Ask students what discipline they chose. Why did they pick that one?

Have students click the discipline that they chose to learn more about. The page starts with a story about an engineer working in the discipline they chose. Have students read about the engineer profiled on the page. Reflecting on this individual's story, what did the students learn? What was interesting or surprising about this individual's story?

*Have students write this information down on the provided worksheet in order to look back on for oral discussion following activity. Worksheets may be handed in for completion marks for written and media literacy marks / or / may even be used as participation marks for the unit.

Ask students if there is anything that would be challenging for them in this discipline. Do they believe that there's a way to improve or face that challenge that they see for themselves? Follow up with what they liked about this job / discipline.

PART 2 (25 minutes)

Have students read "Discipline Description" and "Job Duties" section. Have the students find a sentence that describes something engineers do that contains words or phrases that are new to them. Have students write a sentence on the worksheet chart, underlining the **three words** or **phrases** that are new to them.

<u>*Sticky Note Exercise*</u>

Have students use Google to find definitions to the words or phrases they wrote (hint: try using combinations like the discipline of engineering and the new word. For example, "geological engineer and slope stability").

Students will write the three words or phrases that are new to them, as well as the definitions, on a sticky note (they can use more than one if they need to). When instructed to do so, students will place the sticky notes on the chart in your room that looks like the one below.

| Words | Definitions |
|---|---|
| | |
| | |
| | |

***Once students return back to their seats, continue on the EngScape Site:**

PART 3 (12 minutes)

In the next sections on the worksheet, students can learn about what researchers predict employment to be in that discipline over the next 5-10 years, current employment of engineers and what sectors engineers are employed in. Students can find information about what qualifications engineers working in the field have. Next, students can examine the average salary in each province and territory. If students decide that they're interested in studying this discipline of engineering, they can find a list of programs throughout Canada.

Students will click on the **Find a Job** tab. Using the discipline they selected, students will find a job in their chosen field using the search features. Click the job posting and answer the following:

1. Where is the job located?
2. What are few of the *qualifications* required for the job?
3. Although you may not have the technical skills (often developed during an engineering program), do you think you have any of the other skills (works well in a team, attention to detail, etc.) listed in the *qualifications*?
4. Once completed, feel free to look around the site. Are there other interesting things you can find?

Final discussion if there is time permitting: (10-15 minutes)

Materials / Equipment:

*Task 1*

1. Sticky notes;
2. Technological devices;
3. Large Chart for activity in Part 2;
4. Pen and paper; and

5. Worksheet provided by Engineers Canada

References

EngScape: http://engscape.engineerscanada.ca/

Take Home Tasks

Look through the site and become familiar with resources.