

Exploring Electric Vehicle Charging Stations

Re-Energy
Take Action Activity
Grade Level 7-12



Main Objectives

Learners will demonstrate their understanding of the benefits of charging stations available in the school (grades 7-9) and community (grades 10-12) and present their proposal to their class.

Learning Outcomes

By the end of this activity, learners will:

- Understand the benefits of installing charging stations at school or in their community through research
- Create a map of their proposed space
- Present their research findings

Length of Activity

7 - 10 hours

Materials List

Internet-enabled device
Pen and paper

Before you begin: This activity requires you to have completed the electric vehicle backgrounders and at least one lesson activity with your learners. This will ensure learners have a solid understanding of electric vehicles before beginning the action activity.

Procedure

Activity for Grades 7-9

Step 1: Tell your learners that they will be tasked with researching a potential charging station location and the benefits of installing a charging station at their school.

Step 2: Research municipal, provincial, and federal regulations to be considered when installing a charging station.

Tip: Here is a good Alberta [resource](#) to get started

Step 3: Decide on the best area to put the charging station on their school grounds. Make sure learners take into consideration any infrastructure changes that would be needed and the flow of traffic at their school.

Step 4: Create a map outlining where the charging station would be.

Step 5: Create a list of benefits to the school as well as budget to have it installed. As an extension idea, learners could also come up with a way to fundraise for the money to have one installed.

Step 6: Have the learners present their findings to student council.

Activity for Grades 10-12

Step 1 (3 hours): Have learners work in small groups (2-3 learners) and give them time to research:

- a. What to look for when considering where charging stations should be (consider location, etc.)
- b. Municipal, provincial, and federal regulations that need to be considered, if any.
- c. Research where those elements are in their community (where in the community do those parameters exist).

Tip: Again, you can use this [resource](#) as a starting point.

- d. Types of charging stations to consider. (Are there different types?)
- e. Locate any current charging stations in their community, or current plans to install charging stations.

Step 2: Have learners decide where the best place in their community would be to put a charging station. Have learners do some analysis to see how many stations would be suitable for that area considering electric vehicle purchasing trends and population trends.

Step 3: Consider any infrastructure changes that may have to occur. E.g., changes in roadways to access the charging stations.

Step 4: Create a map outlining the proposed place to be the charging station(s) as well as a budget and do a cost/benefit analysis to outline the benefits to the community.

Step 5: Research how long a typical presentation to Town Council is in your local community and have learners create that length of a presentation. Also research any restrictions to the type of presentation they are allowed to have (consider PowerPoint presentation, poster board, etc.)

Step 6: Work with student council (or gather a group of other learners/educators/administrators) that can act as a mock council. Have each group of learners present their findings to them.

Step 7: Ask the mock town council to select the best presentation.

Step 8: Have the top group incorporate other group's best findings where appropriate. Have the class work together to refine the best presentation.

Step 9: Have the best presentation present their findings to town council.

Extension Idea

- Students can contact their local municipal representative (E.g., a Sustainability Specialist or Climate Change specialist) to see if their community has a Community Energy Plan, Conservation Demand Management Plan and/or a Climate Action Strategy.