

Lesson 6: Canadian Electricity Alternatives

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Purpose:

In this activity, you will investigate different methods used to generate electricity.

Assignment Format:

The class will be divided into groups with each group responsible for covering **one** of the following methods of generating electricity:

tidal, hydro, wind, nuclear, solar, geothermal, fuel cells, biomass, and fossil fuels.

Research:

Each group will research:

- the mechanics of how electricity is generated;
- the advantages of this method (including social, economic, and environmental);
- the disadvantages of this method (including social, economic, and environmental);
- the ideal application for this method. (i.e. conditions which make this the best method of producing electricity)

What Do I Hand-In?

a) **Research Notes** must be submitted prior to the construction of the display (see below).

Format:

- title;
- group members and their assigned responsibilities;
- a diagram that will be used in **The Product** (see below);
- two pages of notes on how it works, advantages, disadvantages, and ideal application. (The notes must be written in complete sentences and in your own words. The research notes should contain more information than will be displayed in **The Product**. The extra information will give you the necessary background to answer questions during the “**Convention**”.);
- 3-6 references, cited according to the HNM bibliography guide (see your agenda) ;
There must be at least one reference from each of:
 - texts
 - newspapers or magazines
 - Science CD-ROM's or the Internet

b) **The Product:**

Each group will prepare a Bristol board display (one board max.) of their research which includes:

- title
- a diagram
- a brief summary of how it works, advantages, disadvantages, and ideal application.

The “Light it Up” Convention:

Each group's **Product** will be setup in a mock convention to be held in the classroom.. Members of the class (the customers) will circulate through the displays, “**shopping**” for the best method of generating electricity for their particular part of Canada. Each group must have one representative at the display available at all times to answer questions.

Canadian Electricity Alternatives Poster Evaluation

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Knowledge

The information in the poster is complete, accurate and shows that the student thoroughly understands the concepts.

Self ___ Teacher ___
/5

Total Knowledge Marks

Self ___ Teacher ___ /5

Communication

1. The main theme is immediately clear. Self ___ Teacher ___ /2
2. The display works visually (i.e., is not too crowded, appears organized, draws and holds the attention of its intended audience). Self ___ Teacher ___ /4
3. Pictures, diagrams, graphs, and other visuals are interesting and help communicate the key ideas. They can be easily seen from two metres away. Self ___ Teacher ___ /2
4. The display is creative and interesting. Self ___ Teacher ___ /4
5. The text is accurate, free of spelling and grammatical errors and communicates well to the intended audience. Self ___ Teacher ___ /4
6. The display is completed on time Self ___ Teacher ___ /4

Total Communication Marks

Self ___ /20 Teacher ___ / 20

Research Notes Evaluation

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Knowledge

The notes accurately describe:

- a) how the technology works; Self ___ Teacher ___ /5
- b) the advantages and disadvantages of the technology over other forms of electrical energy generation; Self ___ Teacher ___ /5
- c) the application that the technology is ideally suited for. Self ___ Teacher ___ /5

Total Knowledge Marks

Self ___ Teacher ___ /15

Communication:

1. The project title and group member names with their assigned responsibilities are listed. Self ___ Teacher ___ /2
2. A sketch or sample of the diagram to be used in the display is provided. Self ___ Teacher ___ /1
3. The text is written in student's own words, and at a level appropriate for the average grade nine student. Self ___ Teacher ___ /3
4. The text is free of spelling and grammatical errors Self ___ Teacher ___ /3
5. Three to six references are listed in the appropriate format. Self ___ Teacher ___ /3
6. There is at least one reference from texts, newspapers and magazines, and CD-ROMs or the Internet. Self ___ Teacher ___ /3

Total Communication Marks

Self ___ Teacher ___ /15
