# Lessons In a Backpack

## Renewable Energy in the Classroom

## Research Questions

- How can we measure students understanding, participation and impact?
- What strategies would enable those key messages to be most effectively communicated and understood to that audience?

## Methods

A literature review was done in order to understand effective teaching styles as well as encompass information from the State of the Bay report into the final lesson plan. The lessons were then piloted in a local classroom to receive feedback on the content and activities.

## Curriculum Expectations

Earth and Space Science: Climate Change

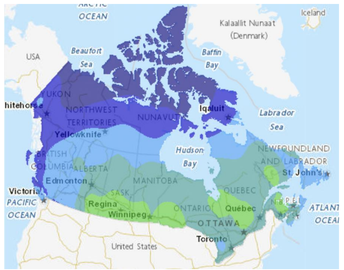
- analyze some of the effects of climate change around the world, and assess the effectiveness of initiatives that attempt to address the issue of climate change

Physics : Lights and Geometric Optics

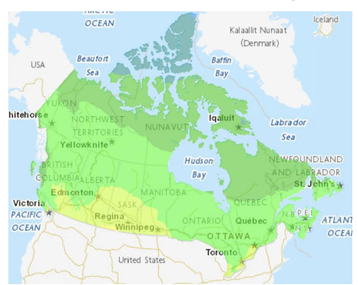
- evaluate the effectiveness of technological devices and procedures designed to make use of light and assess their social benefits.

## Activity

Through this activity, students are given the opportunity to see how photovoltaic potential is altered throughout the year. Different variables which cause these changes are discussed and allow students to critically think about which location out of two randomly selected best fits this criteria.




Photovoltaic Potential in January




Photovoltaic Potential in August

Image source: Photovoltaic Potential and Solar Resource Maps of Canada

## Findings

- Many students are increasingly interested in ways in which technology can be encompassed within the classroom.
- There is a concern amongst students surrounding climate change, and there is a consensus that action needs to take place.
- A variety of comprehension activities throughout a presentation allow students to actively retain new knowledge
- Solar energy is an increasingly popular subject within renewable energy

## Results

A lesson plan was developed which brought together how climate change has a correlation with energy and brought light to how renewable energy can improve the situation. Within the lesson students will be given the opportunity to critically think about their local community and how they see solar in their everyday lives and see how solar within the area changes across different times of the year.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GEORGIAN BAY BIOSPHERE RESERVE

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