



## **Topic: Renewable Energy (Solar)**

**Optimal Age Groups: Junior, Intermediate & Senior**

**Renewable energy** is a term that we hear a lot, but how do we know which forms of energy are renewable or not? In this session, we will talk about different energy sources and some of the reasons for using green alternatives. Specifically, we will focus on a type of energy that powers the plants around us everyday: Solar energy! You may have seen solar panels on local farms, on your neighbour's roof, or you may even have some on your school...

**But how do these solar panels turn the sun's rays into usable energy?**

During our discussion, we will talk about some natural processes that are used to create (and replenish) renewable energy. We will outline how photovoltaic modules are built and how they capture photons from the sun. Topics of inquiry include: What are solar panels made of? Can they be recycled? What are some drawbacks to using solar panels in Canada? And more!

Students will then get to put their knowledge to the test by creating a 'solar powered flashlight'. By disassembling solar garden stakes, students will be able to identify the components needed to create and store energy. After some snipping, stripping, and rearranging we will be able to light up a LED or collect a voltage reading using our solar panels. Students can then explore how different lamps create different electromotive outputs.