

Build a Hydroelectric Generator

Re-Energy Learning Activity Grade Level 3-12



Main Objective

In this construction activity, learners will use plastic spoons to build a model of a simple microhydro system. Learners will also evaluate their micro-hydro system design and answer questions about clean energy.

Learning Outcomes

By the end of this activity, learners will:

- Identify the purpose of and specific requirements for making a hydroelectric generator
- List the steps needed to construct a hydroelectric generator

Length of Activity: 2 hours (Two Class Periods)

Period 1: Introduce the construction plan and build a hydroelectric generator **Period 2:** Continue building the hydroelectric generator

Materials Required

- Internet-enabled device
- Hydroelectric Generator Construction Plan
- Materials and tools to build the hydroelectric generator as outlined in the Construction Plan
- Micro-hydro Templates



Activity

Step 1: Introduction

Set up stations of complete materials to build a hydroelectric generator in different areas of the room. Set up enough stations to accommodate all learners.

Step 2: Build It!

- Review the Hydroelectric Generator Construction Plan as a class.
- Then, build it! Please ensure you follow all safety precautions outlined in the Construction Plan and that you pay close attention to the steps on pages 4-11.

Extension Activities:

Refer to the Hydroelectric Generator Construction Plan:

- 1. What variables in a micro-hydro system could you change to get more electricity from it?
- 2. In what locations in Canada or other parts of the world would micro hydro be a good choice for clean energy?
- 3. What practical problems would you encounter in setting up and running a micro-hydro system in a rural area?
- 4. Why are micro-hydro systems seen as better for the environment compared with large-scale dams?
- 5. Use the Internet to locate distributors and manufacturers of microhydroelectric components. Use the search terms "micro-hydro", "Pelton wheel", and "run of stream."