

Knowing Energy: Renewables

Energy Revealed

Activity

Level 1-2: Grades 3-8

Level 3-4: Grades 9-12



Main Objective

This activity and the associated video will allow learners to understand why efficiency and sustainability are important when we use energy. Learners also will design and build their own device that utilizes renewable energy.

Learning Outcomes

By the end of this activity, learners will:

- Develop an understanding of greenhouse gases (GHG), emissions, and renewables when it comes to energy efficiency and sustainability
- Design and build their own device that utilizes renewable energy

Length of Activity: 2-4 hours

Step 1: Look over the General Overview Guide (10 minutes)

Step 2+3: Watch two Knowing Energy video and complete worksheet (Time Varies)

Step 4: Answer questions regarding worksheet (Time Varies)

Materials Required

Internet-enabled device
General Overview Guide
Renewables Learner Worksheet
Renewables Worksheet Answer Key
Building supplies

Activity

Step 1: General Overview Guide

Review the General Overview Guide to understand how the Knowing Energy Video Series works with its associated activities.

Step 2: Watch a Know Energy Video

- Before learners get started on this activity, be sure to introduce them to the Knowing Energy video in the series called:

 [GHG, Emissions, and Renewables \(4:22 minutes\)](#)

- Learners are encouraged to take notes during the video to help complete the worksheet later.

Step 3: Watch a Know Energy Video and Complete Learner Worksheet

- Allow learners to view or re-watch the video below and hand out the Renewable Energy Learner Worksheet. Depending on the learner's grade level, direct them to complete either or all of levels 1-2.

 [Renewable Energy \(2:46 minutes\)](#)

- The video itself will direct learners on what to do, so allowing them to re-watch, or to go over their task as a class is vital for their understanding. The activity itself can be done individually or in pairs.
- Be sure to remind learners of the concepts that were introduced to them in the videos. These concepts can be further discussed as a class before learners tackle this worksheet that involves learners to design and build their own device that uses renewable energy.

Step 4: Review Learner Worksheet

- Be sure to go over as a class the answers to the worksheet and refer to the Renewables Learner Worksheet Answer Key for any confusion.

Teaching Tips

Level 1

- Nothing is too simple, hanging clothing out to dry is technically renewable energy. Even a simple idea like this can be documented nicely, showing the thought progression from eliminating the dryer and using the wind and sun.

Level 2

- Technology can help in a few ways, like automating the process (smart technology), but let the learners get creative. There isn't any wrong answer right now. The thinking is important. A small write-up on this including photos or graphs is ideal.