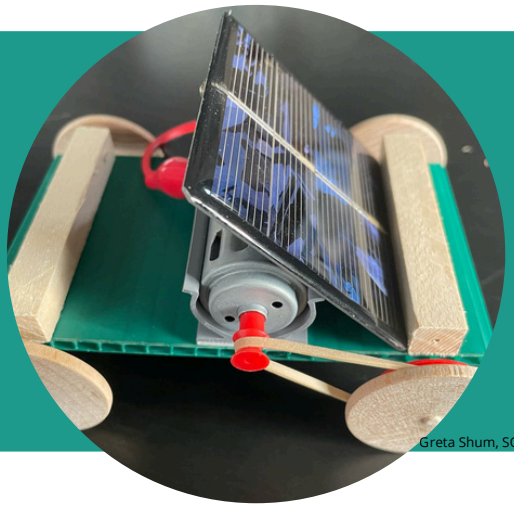
Build a Solar Car

Re-Energy
Activity
Grade Level 3-12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Main Objective

In this activity, learners will work in groups to build a solar car. Learners will test the efficiency of the car and think of and test ways to improve the speed and design of their solar car.

Learning Outcomes

By the end of this activity, learners will:

- Identify the specific requirements for constructing a solar car.
- List the steps needed to construct a solar car.
- Record necessary design modifications to improve the design of your car.

Length of Activity: 2 hours

Step 1: Intro to the solar car construction
Step 2: Set up stations for construction
Step 3: Build a solar car

Materials Required

- Solar Car Construction Plan
- Materials listed in the Solar Car Construction Plan

Activity

Step 1: Background

As a class, or individually, review the background information in the Solar Car Kit Construction Plan.

Step 2: Set Up

1. Set up stations of complete materials to build a solar car in different areas of the room. Set up enough stations to accommodate groups of 3-4 learners each.
2. Explain to the learners that they will be building a solar car during the class. Describe the materials given and explain the purpose of each item.

Step 3: Build it!

1. Review the Solar Car Construction Plan as a class.
2. Should you choose to purchase a **SunWind SunnySide Up Solar Car Kit** watch an instructional video on **How to Build a SunWind SunnySide Up Solar Car Kit (3:29 minutes)**
3. Then, using the Solar Car Construction Plan, build your Solar Car!

Tips and Extension Activities

If you can think of ways to improve the design of your car, try them out! Experiment with the materials. Substitute parts to try to make the car lighter and faster. Keep a record of your design improvements.

Comprehension

1. Working under a bright light bulb or in direct sunlight, experiment with the angle of light hitting the solar panels. What angle gives you the fastest rotation of the wheels?
2. How would you modify this car to make the wheels turn faster?
3. How would you modify this design so that your car could run for short periods in complete darkness or low light situations?
4. Sketch a plan for a solar car large enough to carry a human. What technical problems would you have to overcome to build it?