

Solar-Power Engineer: Solar-Powered Devices



Adventure Description:

In this adventure, you will think like a solar-power engineer and design a new solar-powered device!



Activity

Teacher Note: If you are short on time, do steps 1 and 2 on one day and step 3 on a separate day.

Step 1: Background on Solar Power Engineering (10 minutes)

- Show [Video: Solar-Powered Devices](#).
- Explain to students that right now, most of the electricity they use is made by electric companies. Explain how the electricity is delivered through wires that go from the electric company to our homes, schools, and other places in our community. Show [Handout: How Electricity is Delivered in a Community](#).
- Tip! If you have extra time, do a class-wide Internet search to see if students can find the electric company that provides electricity in your community.
- Explain to students that a solar device can create electricity right at that spot it is located. Electricity does not need to be delivered from a company far away. Show [Handout: How a Solar-Powered Device Works](#).
- Explain to students many things can be powered by the sun as long as they are attached to a solar-powered panel. A solar panel is made of a material that absorbs sunlight and turns it into electricity.
- Next, show [Handout: Solving Problems Using Solar Devices](#). As a class, read through each profile and discuss how solar-powered devices can be used to solve specific problems that people, companies, or communities have. Ask students if they can think of other reasons that people would want to use solar-powered devices.

Step 2: Designing a Solar Device (10-20 minutes)

- Explain to students that they will be designing their own solar device.

Please contact Allison Bischoff, Director of Customer Service, at allison@rozzylearningcompany.com or 314-272-2560 with questions.

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- Provide students with **Handout: My Solar Device**. As a class, read through the steps that students will take to create a solar-powered device.
- Divide students into pairs or small groups. Have each group complete the steps on their handout.

Step 3: Building a Solar Device (20 minutes)

- Explain to students that they will now build a model of what their solar device looks like.
- Provide groups with art supplies and building materials.

Extra Time: Sharing Ideas (10 minutes)

- Have students present their solar devices to the class and explain how they will work. Specifically, they should explain how their device works and how it solves the specific person's problem.

Materials List

Provided online:

- Video: Solar-Powered Devices
- Handout: How Electricity is Delivered in a Community
- Handout: How a Solar-Powered Device Works
- Handout: Solving Problems Using Solar Devices
- Handout: My Solar Device

Not provided (each pair of students needs):

- Building Materials
- Art Supplies

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