

## Getting to Know Solar Energy Careers

<b>Grade Level:</b>	<b>Time Frame:</b>
<b>Kindergarten</b> <b>1st Grade</b> <b>2nd Grade</b>	50 minutes
<b>Standards (ALCOS Science):</b>	
<p><b>6 )</b> Identify and plan possible solutions (e.g., reducing, reusing, recycling) to lessen the human impact on the local environment.*</p> <p><b>5 )</b> Differentiate between goods and services.  Examples: goods—food, toys, clothing; services—medical care, fire protection, law enforcement, library resources</p> <p><b>7 )</b> Describe roles of helpers and leaders, including school principal, school custodian, volunteers, police officers, and fire and rescue workers.</p> <p><b>7 )</b> Describe how occupational and recreational opportunities in the local community and state are affected by the physical environment.</p> <p><b>9 )</b> Differentiate between natural resources and human-made products.  Listing ways to protect our natural resources  Examples: conserving forests by recycling newspapers, conserving energy by turning off lights, promoting protection of resources by participating in activities such as Earth Day and Arbor Day</p> <p><b>10 )</b> Identify ways people throughout the country are affected by their human and physical environments.</p>	
<b>Objectives:</b>	

**Made Possible By:**



<http://alcse.org/education>

Students will investigate different types of solar energy careers and the roles and services associated with each type.

Students will select one career to examine further and of which will develop a brief report in the style of an autobiographical interview.

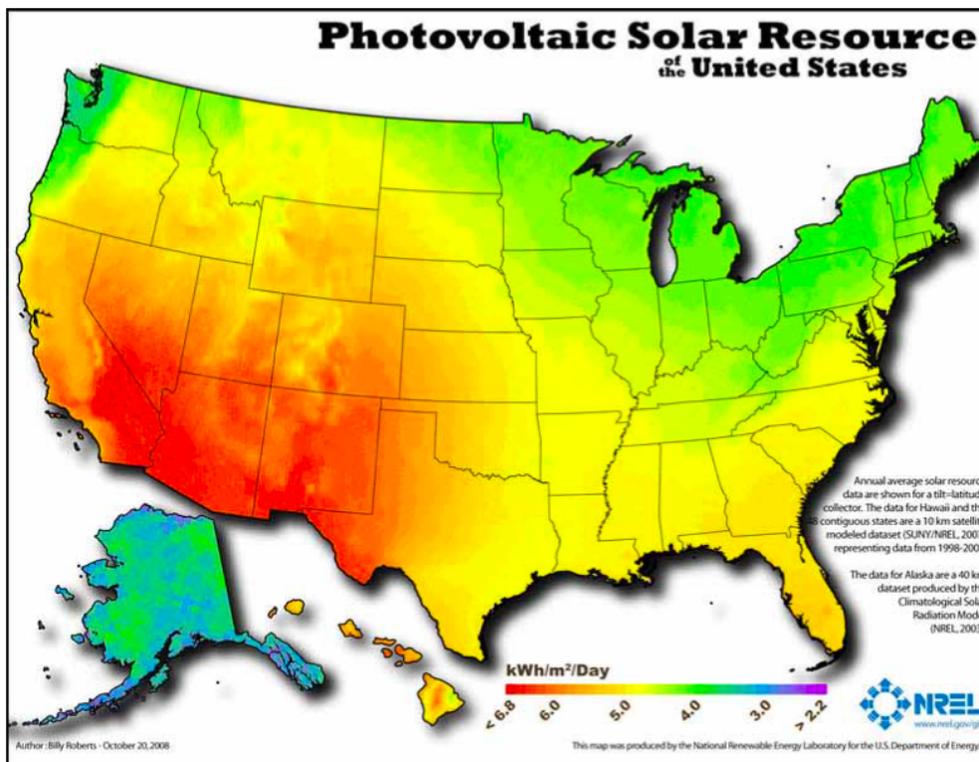
## Background Information:

**Renewable Energy**- energy that comes from resources that are naturally replenished on a human timescale; these include wind, solar, geothermal, biofuel, and hydro.

**Sustainable**-refers to the concept that renewable energy resources will always be around and never be depleted

The following map produced by the National Renewable Energy Laboratory for the U.S. The Department of Energy shows the amounts of available solar energy in the United States. There are locations throughout the United States that have the ability to effectively produce solar power. The ability to produce solar power is important because it creates jobs for those people who live in this solar-abundant physical environment.

**Map 1. Available solar energy in the United States**



There are a variety of careers associated with the solar power industry from scientists to sales representatives. But the solar power industry is not only good for communities and the economy, it is also good for the environment. By using **sustainable** natural resources, such as the sun, to power the electrical grid, other nonrenewable resources, such as coal, gas, and oil, can be used less and reduce the amount of carbon emissions in the atmosphere.

As solar power becomes more cost-effective, it has the potential to provide a **renewable energy** source for many of the energy needs of the U.S. while also creating more jobs. In this activity, students will learn about the different types of careers in the solar industry and the important services they provide!

### Materials:

- FOR EACH GROUP OF (3-4) STUDENTS:
  - “Solar Energy Career Cards”
    - teacher should cut out each card and shuffle stack
    - cards are matched as printed on handout
    - each set will need the 3 category cards
- For Each Student:
  - “Solar Energy Career Interview” handout
    - older students may do page 1 and 2 while younger may only do page 1, teacher can decide!
  - Pencil
  - Crayons or other colored utensil

### Engage (15 minutes):

1. **Match it Up!** Students will work in groups to organize the cards to match the 10 correct Career cards (faces) with 10 Goods cards (objects) and 10 Services cards (word description).
  - a. Students should organize cards in columns/rows using the Category Cards.
  - b. Depending on the age group, teacher can project the cards on a screen and work together or have students work with less guidance in their own groups.

### Explore (30 minutes):

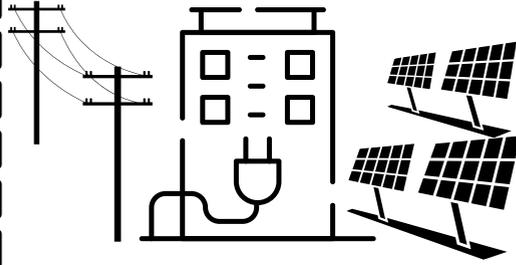
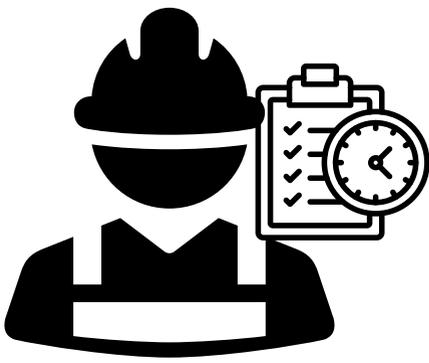
1. **Make it Personal!** Students will choose a career they learned about to select for role play and being “interviewed.”
2. Students will first complete the “An Interview of You!” page using their knowledge from the Engage activity. They may still need to look at the cards in their groups. Each student should select a different career from the 10.
3. Students will next “interview” a friend using the “An Interview of a Friend!” page
  - a. Younger students may only do the first page.

### Evaluate (5 minutes):

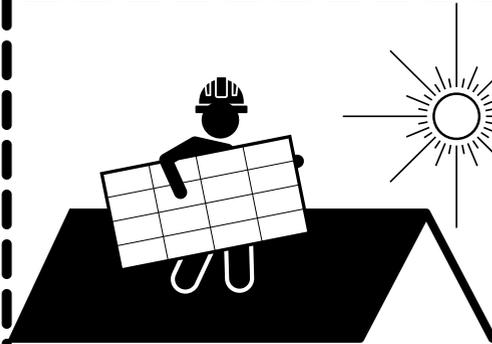
1. **Discuss it!** Students will discuss the following questions out loud as a class:
  - a. Did you know about these careers before we did this activity?
  - b. What made you choose the career you did for your interview?
  - c. Do you think you would work together with the friend that you interviewed? How?

References:

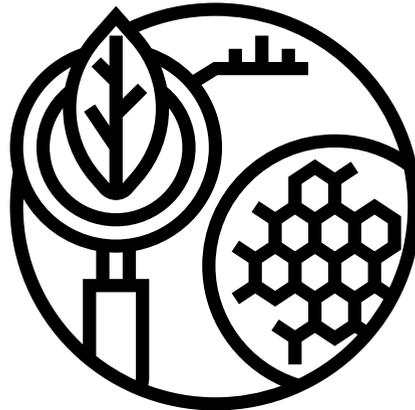
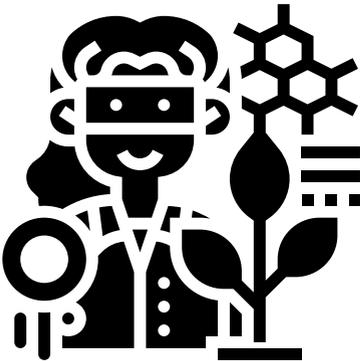
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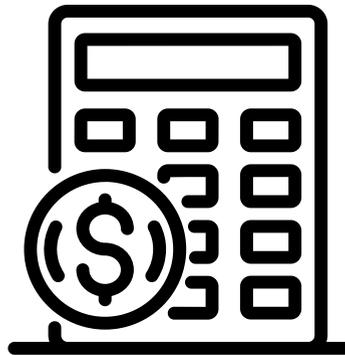
**Plant Managers** monitor solar panels and wires that send electricity from the plant to buildings.



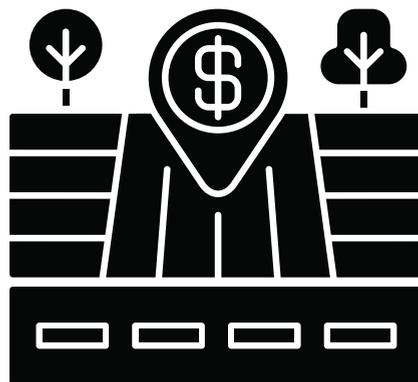
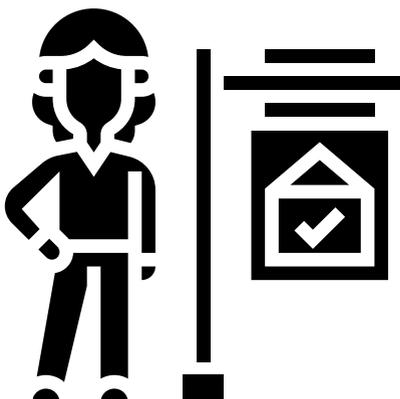
**Construction Workers** build parts of the solar power plant by lifting large objects and putting them in place.



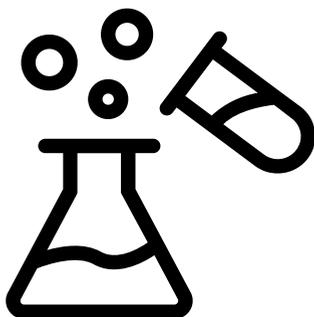
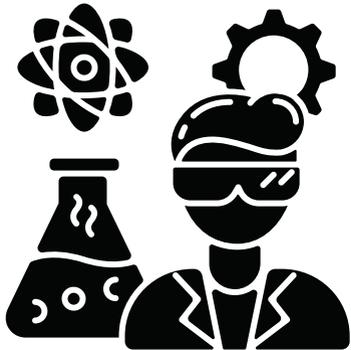
**Environmental Scientists** study the earth and make sure plants and animals are safe that live near solar power plants.



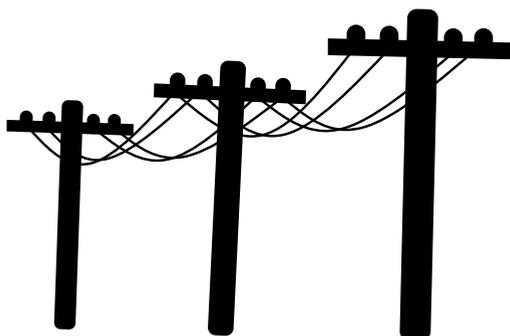
**Sales Representatives** help people get solar power connected to their homes or businesses for the best price.



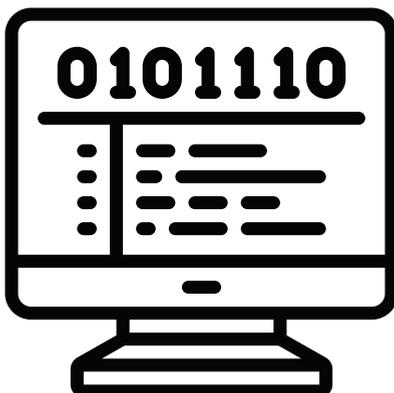
**Realtors** help companies find the right land to buy and to build solar power plants.



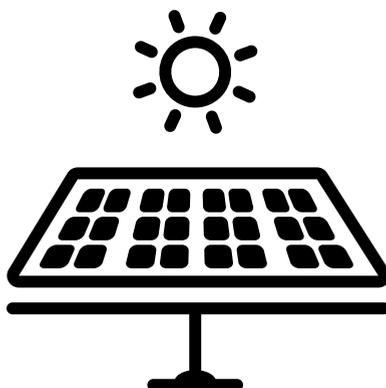
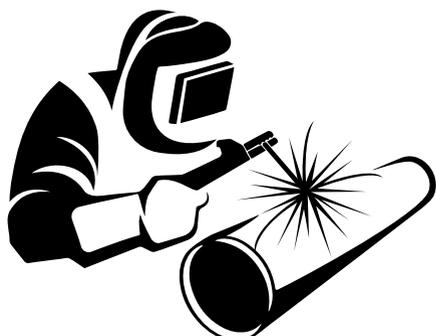
Materials Scientists investigate materials to improve solar cells or find ways to make new ones.



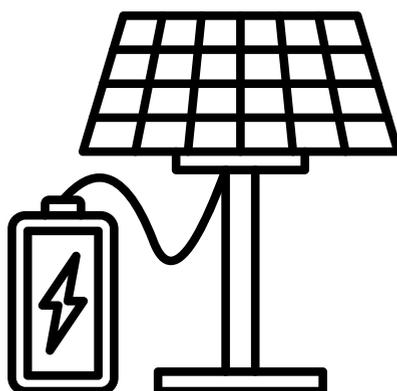
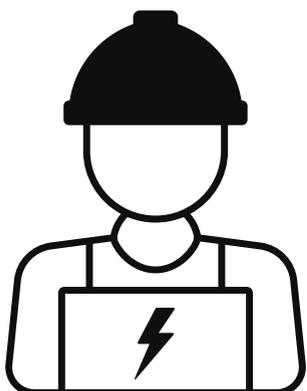
Electrical Engineers design and test the electrical wires that attach to solar panels and carry electricity to buildings.



Software Developers design computer programs that can measure sunlight and weather patterns at a solar power plant.



Welders use heat to melt metal parts that connect electrical wires and hold solar panels.



Electricians put together, install, and maintain electrical wires that carry the electricity from solar panels.

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**Careers**

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**Goods**

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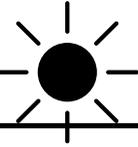
**Services**

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Name: \_\_\_\_\_ Date: \_\_\_\_\_



## An Interview of You!



What is your career?



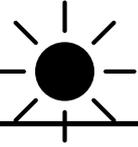
What goods or products do you help make?

What does your day at work look like?  
(Draw your services below!)

Name: \_\_\_\_\_ Date: \_\_\_\_\_



## An Interview of a Friend!



What is your career?



What goods or products do you help make?

What does your day at work look like?  
(Draw your services below!)