

# ASES NATIONAL SOLAR TOUR

## Guide for Participating Schools

Thank you for participating in the American Solar Energy Society's National Solar Tour! This event offers students, educators, and the broader school community to learn about the power of solar to change our world for the better. Below are some suggestions on how best to host a tour at your school.



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# Classroom Activities

During your tour, we suggest that students learn about your school's solar installation during class. Science classes are often the best fit, but do whatever works best for you! We will send you a hard copy of our [Know Your Solar: Community Resource Guide](#) for you to share with your students.

## Introductory Solar Videos

There are a multitude of resources available on the basics of solar energy for all age groups. This section contains a curated list of YouTube videos that provide an introductory overview of how solar photovoltaic systems work. Each video is roughly 3-5 minutes long.

Some are more than five years old, so references to the economics of solar may be out of date. (For instance, [renewables reached cost parity](#) with fossil fuels for electricity generation in most countries back in 2021.) The Vox video at the end provides the most recent update on the economics of solar.

### High-Level Overviews

- ▶ [How Solar Power Works](#) (briefly) goes over the different parts to a solar system.
- ▶ [Solar Photovoltaics 101](#) provides a nice high-level overview of solar photovoltaic technology.
- ▶ [How We Turn Solar Energy Into Electricity](#) covers solar basics and a bit on the history of solar.

### [Solar Work Book](#)

- Suggested sheets to print out:
  - [Solar System](#)
  - [Solar Energy](#)
  - [Solar Tent](#)

### Deeper Dives

- ▶ [How do solar cells work?](#) This video is more advanced and covers P- and N-type layers in solar cells.
- ▶ [How Do Solar Panels Work? \(Physics of Solar Cells\)](#) For the initiated or advanced students, this video delves more into the physics of solar while still remaining fairly accessible.
- ▶ [How solar energy got so cheap](#) This video from Vox covers the precipitous fall in the cost of solar.

## Touring the Solar System

Once students have an overview of how solar photovoltaic systems work, it would be ideal if students could see their school's system "in action." This could mean walking around the system outside, finding the inverter(s), and looking at how the wiring of the panels connects to the building.

Additionally, most systems have some sort of web-based energy generation dashboard. Showing students this (which is often interactive and allows you to view generation over different time periods) would turn the static installation into a more dynamic system. (Talk to your facilities or operations department to learn about whether your system has a web-based monitor or not.)

If you're able to view generation graphs, have students guess beforehand what the graph will look like before showing it to them (i.e. it will be a bell-shaped curve centered on solar noon and extending from sunrise to sunset).

# Public Tours

An event that is open to the public is one of the best ways to showcase your solar installation to the most people and to adults who would be in the position to get solar themselves. It can also be a sizable undertaking, so we thank you immensely if you are willing to host such an event.

While hosting a dedicated event during the official tour dates is an option, we understand that this can be a lot of work. Other options include setting up a table or "booth" at existing school events, such as an open house, harvest festival, spirit week, homecoming, or fundraiser.

## Leading Up to the Tour

While ASES will help spread the word about the National Solar Tour as a whole, we cannot promote each individual tour. You likely also have better means of reaching potential attendees than we do. Here are some recommendations for how to spread the word:

- Add the tour to any school calendars
- Mention the tour in any school newsletters
- Ensure that science teachers are aware of the event and mention it to their students
- CC a PTA member on email correspondence with ASES so they are aware of the event

## The Days Before the Tour

ASES provides several resources that you can print and make available to attendees. Now would be a good time to print them out.

If your system has a web-based monitor of its electricity generation performance, see if you can get a laptop to display this at the tour. This helps the otherwise inert solar system come to life!

## The Day of the Tour

Put out any printed resources and the generation monitor laptop. Be sure to put out a sign-in sheet for attendees!

# Additional Teaching Resources

If you're looking to go beyond a single day of solar in the classroom, check out these resources:

## National Energy Education Development (NEED)

[NEED](#) helps students “at all grade levels learn about all aspects of energy—science of energy, energy sources, electricity, transportation, efficiency & conservation.” [Read about their curriculum](#) or [jump straight to their grade 6-8 materials](#).

## New Jersey Climate Change Education Resources

“In an effort to support the implementation of standards-based climate change education, a team of educators [has] identified instructional activities, lesson plans and units” for use by teachers everywhere. [Learn more here](#).

## Florida State Energy Center K-12 Curricula

FSEC has compiled numerous [sets of curriculum materials](#) for K-12 teachers and schools.

## Solar Empowered Schools

[This website](#) offers various [lessons and educational resources](#) on solar energy.

## Climate Change Resources

[This website](#) provides information on [what students can do](#) to help combat climate change.

## Inspiration from New Jersey

[This New York Times article](#) covers some inspirational and heartwarming stories of elementary school students in New Jersey, which was the first state to mandate educating all K-12 students about climate change. (If you are unable to view the NYT article, [view this repost on DNYUZ](#).)