



Overview

Topic	Introduction to Solar Energy	Date	
Grade Level	6 – 8	Presenter	
School		Teacher	

Goal

Introduce students to the basics of solar and renewable energy. Have students think about how energy plays a role in their own lives, and think about ways to incorporate more renewable energy in their homes, schools, communities and/or our world.

Timeline

Opening/Introduction - 10
 Presentation - 10
 Activity - 20
 Conclusion - 5

Materials

Printed photos of types of electricity generation
 Large paper
 Coloring and drawing materials

Ice Breaker & Opening Questions

- Can anyone try to explain what solar energy is?
- Where does electricity come from? / How do we make electricity?
- In pairs, discuss some of the pros and cons of fossil fuels for electricity generation.
- What does “renewable energy” mean? / What kinds of energy are renewable or non-renewable?
- As students name examples, show your prepared photos and pin them on the board.

Presentation / Core Content

Share some fast facts about the history of solar energy (see Index for detailed list).

Show a general diagram of a home solar energy system, including panels, conduit, inverter, and appliances. Ask, and then explain: How does energy flow through this system? What happens to energy that isn’t used inside the house?

For more advanced students, you may discuss the difference between grid-tied and off-grid systems.

You can also discuss AC / DC, string inverters vs. micro-inverters. You may also introduce solar thermal systems, and utility-scale solar. This is also a great opportunity to talk about your career in solar energy, and answer any questions that students may have.

Classroom Activities Options

Video:

If the classroom is set up with A/V, we recommend this video about [Concentrating Solar Power](#). This provides a concise introduction to one type of utility scale solar.

100 percent renewable:

Show a pie chart of current energy sources used worldwide. State charts are available at www.thesolutionsproject.org. Have students think about a “100% renewable” home, city, or world. What would that look like? Students can break into groups of 3 -5, and draw out their vision for a renewable energy future.

Conclusion

Ask groups to present what they have drawn. Ask students to share one thing they have learned, or one question they have about solar or renewable energy.