

Please watch the videos located in Solar 101: Solar Energy Background, and answer the following questions.

**Solar Introduction:**

1. How much solar energy hits the Earth's surface every day? Every year?
2. Explain the difference between passive solar and active solar. Provide examples.
3. What types of the sun's energy make up the light spectrum?
4. What is a Photon?
5. Define Photovoltaic (PV).

**How PV Works:**

1. Explain how Photons and solar cells interact with one another to create an electrical current.
2. What type of current is generated through this process?
3. Who discovered the Photovoltaic Effect? When?
4. What is the total capacity of installed PV in the world in megawatts (MW)? In the U.S.?
5. Name the different groupings of PV (see "Using PV" slide).
6. Where do you see the use of small application of solar PV today? Provide examples.
7. How many modules are in use at Keystone? How much energy is being generated? What type of current is being generated?
8. Name the components of a large scale solar PV system.
9. What is the purpose of an inverter?
10. Define the following: Radiation, Insolation, Production, Capacity Factor, Albedo, and Performance Ratio.

**The Case for Solar:**

1. What is the phrase used for when energy demand is highest?
2. What are some of the limitations of solar PV?
3. What area of the U.S. has the best solar resource?
4. In a few sentences, discuss the benefits of solar PV.