

Name _____

Silicon Solar Cells

- Rank the following colors from highest energy to lowest energy:
Green, orange, red, blue, yellow, violet
Violet, blue, green, yellow, orange, red
- Electrons have a [negative] charge, neutrons have a [neutral] charge, and protons have a [positive] charge.
- In Bohr's model, the electron closest to the neutron has the fastest revolution time and the lowest energy state.
a. True **b. False**
- Where does energy go as an electron falls from high energy orbits to lower energy orbits? [It is emitted as light].
- Which wavelength of visible light will jump a Hydrogen electron to its highest energy state?
a. orange **b. violet** c. light blue d. dark blue
- The outermost shell electrons are known as [valence] electrons.
- The most abundant element in photovoltaic modules is:
a. Phosphorous b. Boron **c. Silicon** d. Hydrogen
- Electrons move toward positive fields and "holes" move toward negative fields.
a. **True** b. False
- Doping is the process of introducing impurities into the silicon grid. Which two are used?
a. Hydrogen **b. Boron** c. Light **d. Phosphorous**
- Solar cells "use up" electrons over time. Therefore, their lifespan is limited to 20-25 years.
a. True **b. False**