

Name _____

Silicon Solar Cells

1. Rank the following colors from highest energy to lowest energy:
Green, orange, red, blue, yellow, violet
2. Electrons have a _____ charge, neutrons have a _____ charge, and protons have a _____ charge.
3. In Bohr's model, the electron closest to the neutron has the fastest revolution time and the lowest energy state.
a. True b. False
4. Where does energy go as an electron falls from high energy orbits to lower energy orbits?
_____.
5. 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
6. The outermost shell electrons are known as _____ electrons.
7. The most abundant element in photovoltaic modules is:
a. Phosphorous b. Boron c. Silicon d. Hydrogen
8. Electrons move toward positive fields and "holes" move toward negative fields.
a. True b. False
9. Doping is the process of introducing impurities into the silicon grid. Which two are used?
a. Hydrogen b. Boron c. Light d. Phosphorous
10. Solar cells "use up" electrons over time. Therefore, their lifespan is limited to 20-25 years.
a. True b. False