

## PHOTOVOLTAIC SOLAR ENERGY: CONCEPTS AND APPLICATIONS FOR HIGH SCHOOL

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### ABSTRACT

This work has as main objective to offer innovative content to the curriculum of physical education in basic education, taking into account requirements of the National Curriculum Parameters (PCNs), the Law of Guidelines and Bases of National Education (LDB) and Learning Theories as well as the needs of society to meet the principles of science involved in the technology that surrounds them, in physics research in high school, area of concentration: Physical Education in Primary. Initially this work makes references to the NCPs, the LDB and the theories of learning, then seek some key physics concepts for the understanding of the theme, "Electricity from photovoltaic panels," followed by a set of theories that describe all process, from the behavior of semiconductors with temperature and solar radiation, as is theoretically addressed as the doping of semiconductors and pn junction is made to the construction of solar panels and their use in generating electricity. Finally presents a teaching proposal with experiments intended for basic education in order to encourage and awaken the learning in the area of renewable energy.

**Keywords:** Solar Energy, Photovoltaics, Basic Education Concepts, Experiments.



**Figur 1.** Photovoltaic didactic system: Cell, inverser, charge control and batery.