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Inductive Power Transfer

The rapid growth of technology is a defining characteristic of human history. Our ability as humans to consistently improve upon technique, models, and ideas is the key to our years of success. In the past years, we have witnessed many technological advancements in the field of power transfer methods. From solar panels to dams, ideas have been rethought over the past decade. A particularly noticeable trend is the increasing absence of wires, which used to be considered detrimental to the transfer of electricity or information. Our phones connect to the internet through Wi-Fi: a completely wireless connection to a router which in turn connects a device to the internet. Wireless Keyboard, mice, and even speakers have been trickling in throughout the past decade. Recently, wireless charging for phones has increased in popularity. But how "high-tech" is this? For our project, we wanted to explore the ins and outs of wireless power transfer. Our experiments led us to believe that it was in fact possible to power a single Light Emitting Diode (LED) by using alternating currents produced by induction coils. Though this may seem like an easy task, transferring power through the air will be a difficult goal to obtain. Operating at a high enough efficiency to create light is a truly daunting task. Through this project, we hope to understand how inductive power transfer and electromagnetism at a level of mastery as well as be able to teach others who observe us what this new, cutting edge technology has to offer. In addition to introducing the benefits of this form of power transfer, we will discuss the drawbacks of this technology, namely: inefficiency and underdevelopment of the new technology.