

Pre-lab assignment for the Electromagnetic Induction experiment

Name: _____

Date: _____

One practical example of electromagnetic induction is the induction stove, a kind of stove that some of you may have in your household kitchens. Skim over the Wikipedia article on induction stoves to get some understanding of the principles of physics that are used, and to help answer the questions below.

Link to the Wikipedia article: http://en.wikipedia.org/wiki/Induction_stove

It's worth looking at this site, if only to see the picture of the fried egg: <http://inductionovens.com/>

In your own words, summarize how an induction stove works. Name at least one advantage an induction stove offers over a more conventional stove, heated by gas or resistive heating elements.

Let's say that you want to heat up some water to make pasta for dinner. You fill your glass pot with water, and place it on your induction stove to boil the water. Do you think that this will take more or less time than heating the water in the glass pot on a more conventional stove? Explain.

In many recreational vehicles (RV's), appliances are run off a system of batteries, which provide direct current, instead of the alternating current that supplies the electrical energy to appliances in your house or apartment. Would an induction stove, in which direct current is applied to the coil below the pot on the stove, work well in an RV? Explain.