Name_____ Period _____ Date _____

Betavoltaics

STEM Sims

Lesson 5: But Is It Safe?

Cost efficiency is not the only factor that one must consider when choosing a battery. Certain types of batteries emit radiation, which is potentially harmful to many living organisms. Geiger counters can measure the amount of radiation to assess the possible dangers.

Doing the Science

1. Start the Betavoltaics Simulation by clicking on the "Sim" tab.
2. Click on one of the direct current sources located at the top of the screen.
3. Click the red "Start" button on the source testing device.
4. Record the source name, the radiation Dose, and Type displayed on the Geiger Counter in Table 1.
5. Repeat steps 2-4 above, until all sources are tested. Make sure to record your data in Table 1.

Table 1. DC Sources' Radiation Dose and Type

DC Source	Dose	Type

Do You Understand?

1. Which DC source produced the largest dose of radiation?

2. Which type of radiation was emitted by the sources? What are three characteristics of the type of radiation emitted by the sources?

3. Heart pacemakers require a DC source. What are some possible implications from implanting a radiation-emitting source inside a human body to power a pacemaker?