King's Electrolyte Drink vs. Pedialyte, Phase II

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Electrolytes – specifically sodium, chloride, magnesium, potassium, and other minerals – are vital to the body's functions. They speed the nervous system's rate of function, re-hydrate the body, and keep other body functions normal. Electrolytes in Pedialyte help re-hydrate a sick or dehydrated person. However, there are some undesired ingredients in Pedialyte. In response, an all-natural electrolyte solution was formulated and named King's Electrolyte Drink. A circuit was assembled with a nine-volt battery, a clip, a digital multi-meter, and a conductance sensor. The sensor was submerged it into several liquids and current measurements were recorded on the multi-meter. The process was repeated with the King's Electrolyte Drink and measurements were collected and recorded. To determine the conductance, the equation C=I/V was used, where C=Conductance in milli-Siemens (mS), I=Current (mA), and V=Voltage (V). A 9v battery was used, therefore each current measurement was divided by nine to get the conductance. The data indicated that the King's Electrolyte Drink measured at a higher electrolyte level (conductance) than Pedialyte. The information in this project supports the need for healthy re-hydration products for athletes and patients. There is a need for continual improvement in the composition of sports drinks and electrolyte products.

Awards Won: