**The Great Squirrel Mystery**

The overall goal of this experiment is to determine whether the brightness of the candle(s) located inside of jack-o-lanterns has an effect on the probability of these jack-o-lanterns being ingested by squirrels. The null hypothesis for this experiment is that candlelight levels have no effect on the probability of these squirrel encounters, while the alternative hypothesis is that different light levels have an effect on the probability of squirrel consumption.

In this experiment, the independent variable will be the strength of the emitted light emanating from candle(s) located in the interior of various jack-o-lanterns. This variable will be quantitative in nature and the data will be collected via a calibrated light meter and measured in candlepower. The dependent variable will be the rate of squirrel engagements and there are several available methods for collecting this data. These measures would be quantitative in nature and some options include, but are not limited to, number of squirrels that approach within X feet of the jack-o-lantern; number of squirrels that make physical contact with the jack-o-lantern; average amount of the jack-o-lantern that has been consumed by a squirrel per unit of time; and length of time that a squirrel stays with X feet of the jack-o-lantern.

This experiment will be designed to measure the dose-response of candlelight on squirrels. Jack-o-lanterns holding 0, 1, 2, or 3 candles (with the 0-candle group serving as the control) will be placed throughout the testing area. All of these jack-o-lanterns will be utilizing the same type and size of pumpkin, as well as the same spooky cut-out pattern. The testing area will consist of three separate neighborhoods in the vicinity of where I live, all of which consist of roughly the same size of houses and similar population density.

There are several confounding factors which will need to be accounted for. Some examples include differing levels of road and foot traffic, proximity to natural squirrel habitats, light levels of both the surrounding areas and in the vicinity of the jack-o-lantern itself. To the maximum extent possible, the experimental groups will be stratified, with equivalent numbers from each group placed in similar environments in order to best account for the various identified confounding factors.