In this experiment *Armadillidium vulgare* were put into an arena with two cells, each contain substrate with different amount of moisture, one dry and one wet. This was done to determine which substrate *Armadillidium vulgare* preferred. The conclusion of this experiment is that *Armadillidium vulgare* preferred the dry substrate over the wet substrate which does not support our original hypothesis. This conclusion was reached by measuring the amount of time spent in each substrate for five different pill bugs for three, fifteen-minute trials.

 This experiment was conducted in order to determine which substrate *Armadillidium vulgare* preferred, dry or moist substrate. It was hypothesized that *Armadillidium vulgare* would prefer moist substrate due to the fact that *Armadillidium vulgare* have gills as respiratory organs.

 Once the experiment was finished the data came back and the results showed that *Armadillidium vulgare* spent the most time in the dry substrate over the moist substrate spending about 80% of the time in the cell with dry substrate (Figure 1). A reason that *Armadillidium vulgare* spent the most time in the dry substrate could be due to the reason that the moisture level in the dry substrate was more similar to the moisture level in the substrate of the habitat that *Armadillidium vulgare* were being held in. One of the limitations of this experiment are that there were posted notes used to close off other cells which *Armadillidium vulgare* were possibly attracted to the cover the posted notes provided.