Sample Data – Animals Unit, Week 2 Investigation

WUHS Biology

Background

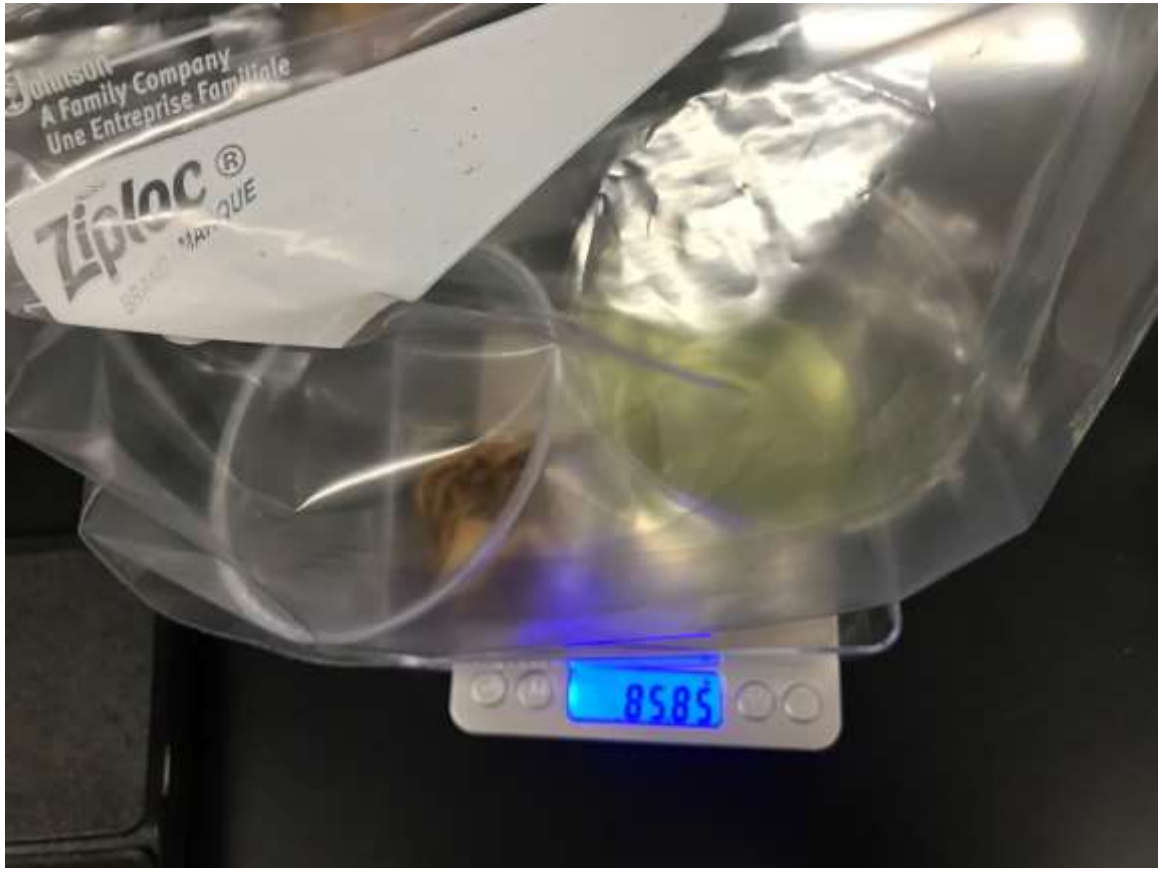
- **Students recorded data about how mass changes and how BTB changes when mealworms move, eat, and grow.**
  - While we are focusing on how cattle use the food they consume to grow and move, it is not feasible to study cattle in our classroom.
  - As such, we will use mealworms as a substitute.
  - In science, we refer to this as a “model organism”, or an organism that is widely studied because it is easy to maintain in a laboratory setting but can still provide valuable insights.

Protocol

- Students measured the initial mass of mealworms and the initial mass of a slice of potato.
- Students then added the potato slice to the container of mealworms.
- The mealworms and potato were placed in a sealed container with BTB (which indicates whether levels of CO_2 changed).
- Students then recorded the mass of the entire container.
- Students then waited 24-48 hours to record any changes.

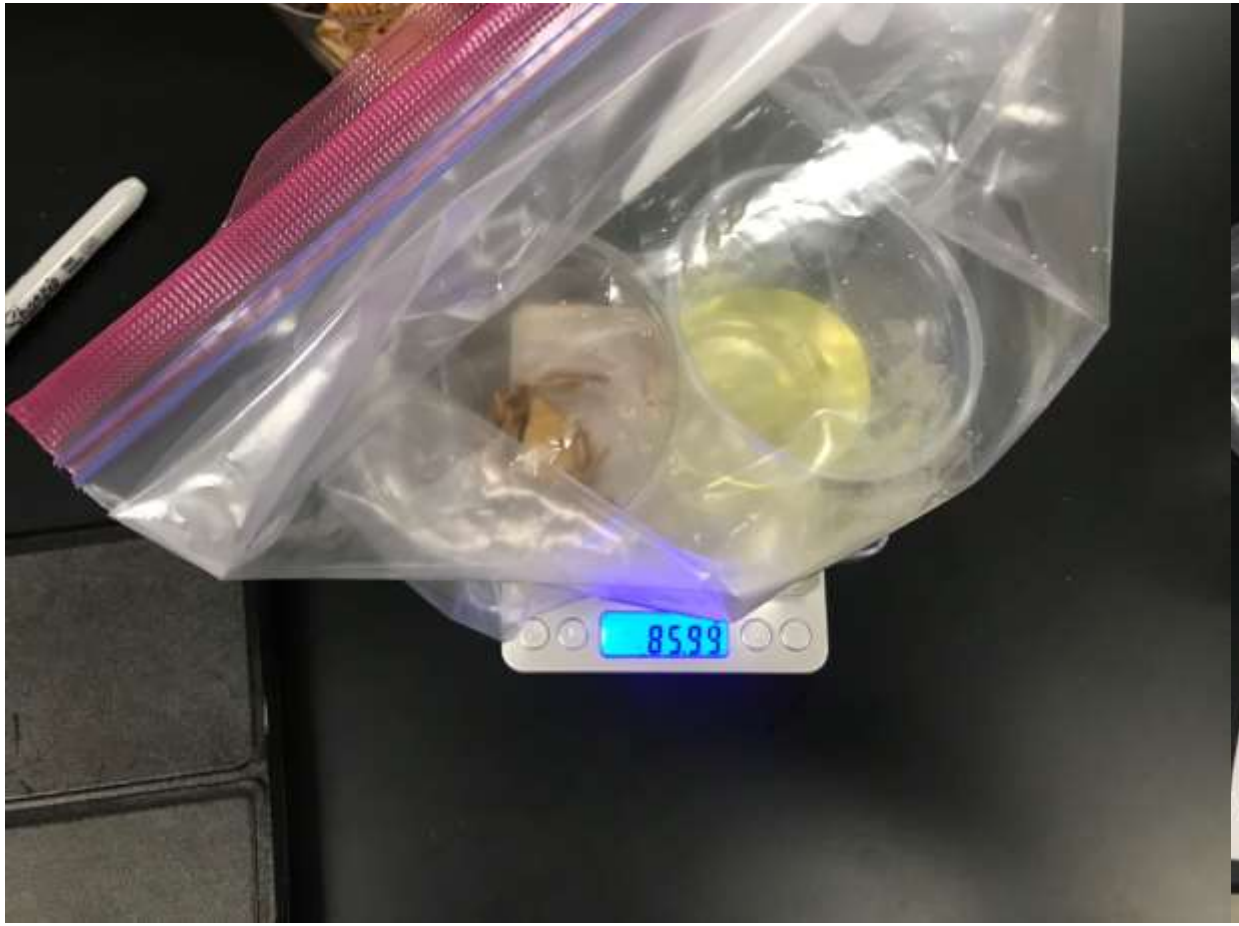
Initial Mass of Worms vs. Initial Mass of Potato

Initial Mass of Container; Color of BTB (Green)



Final Mass of Worms vs. Final Mass of Potato

Final Mass of Container; Final Color of BTB (Yellow)



Note that the BTB turned from green to yellow; this indicates an increase in CO_2 in the air inside the bag.
Also note the condensation that has built up inside this bag; this suggests that water vapor was released.