Module 1: Mealworms
Grade 3

In this module, students investigate the question “What variables affect the direction mealworms travel?” in order to learn about mealworms’ ideal habitat. For their initial observation, students are shown an experiment in which mealworms are placed inside a pillbox with holes drilled into the compartmental dividers that allow the mealworms to travel from one compartment to another. The compartments the mealworms can travel to have wet woodchips or dry woodchips in them, and the majority of the mealworms travel to the dry woodchips, allowing students to infer that mealworms live in a dry environment.

Students further learn about mealworms’ ideal habitat by planning and carrying out experiments in groups of ~5. The variables that students can explore are food type, bedding type, light amount, number of holes to travel through, and color of environment. At the end of the investigation groups give a poster presentation to the rest of the class, which allows the group to teach the class about the variable they investigated. In addition, on the final day of the module students discuss what species can do when their environment changes (move, die, adapt). During this discussion students explore several different animal species and what the response was of that specific species to an environmental change. This module also addresses the importance of running multiple trials for experiments. In order to find one number to represent the outcome of the trials students are taught to find the median of the trials. The scientific practice this module focuses on is questions, including whether a question is testable or not testable. In this module the Next Generation Science Standard 3-LS-4-3 is addressed.