6th Grade: Survival of The Beakiest

Course Description: Throughout this lesson, students will experiment and discover why adaptations occur and why they are essential for survival! By the end of the lesson, students will be able to describe several survival traits of animals and engineer a habitat according to local bird traits.

Day 1: Birds showcase classic examples of physical and behavioral adaptations. Students will learn about mimicry, camouflage, hibernation, migration, hives/colonies, and animals that are nocturnal. Students will develop their understanding of these different adaptations through an interactive class activity and observe different insects.

Demonstration: We will bring in an insect that is highly adapted to survive its environment as an example. Then, while in table groups and using whiteboards, students will use teamwork as a strategy to compete in knowledge and reason throughout the activities presented. Students will list animal survival strategies in nature, and teachers will prompt for and fill in ones missed by students. Students will learn in-depth about several strategies while interacting with live examples of insects. As the last application, a student will be selected from each group to be a predator that steps outside the classroom while other students attempt to make a moth each to camouflage into the classroom environment.

Day 2: Students will explore a case study of bird features such as feet and beaks. Students will learn how different birds have a variety of types of feet and these feet have different types of sizes, shapes, and purposes. Students will also start to think about how different beaks evolved differently in each species to improve their functions in response to their environment. These functions include feeding themselves and their young, defending themselves, grooming their feathers, mating, regulating their body temperature, or building nests.

Demonstration: Groups of students will use reason to try to match the correct picture of a bird's feet to a description of what the feet are used for. They will also be able to observe different insect adaptations to compare and contrast favorable traits across different habitats. They'll be able to compare and contrast the different adaptations from similar habitats among insects and birds.

Day 3: Students will learn in a very practical way how and why birds and insects adapted to become more successful in their environments. Varieties of beak shapes and sizes are an adaptation to the different types of foods that birds eat. They will share their investigative findings.

Demonstration: Based on the demonstration from the day before, students will experiment for themselves to figure out which bird's beak is adapted to eat certain foods as they use a timer to record their results in a datasheet before coming to a scientific conclusion.

Day 4: The American Robin, Tufted Titmouse, and Downy Woodpecker are all great examples of some Pennsylvania native species. Students will learn to observe and identify different Pennsylvania native species with the help of our educators.

Demonstration: Students will go outside to observe birds and insects local to the area and come to conclusions about their adaptations and needs based on what was learned the previous three days. We will challenge to apply learned information and engineering skills to create a bird feeder with recycled materials for a local bird species of their choice.