unit 17

Structure, Function and Survival
Unit 17 | Structure, Function and Survival

DESIGN CHALLENGE:
How can we design an ideal habitat for an insect?

Visit the Unit 17 Curriculum Page for more resources: http://schoolpartnership.wustl.edu/instructional-materials/mysci-unit-17-using-our-senses/. Click the lesson numbers below to navigate through the curriculum.

section 1
What do organisms need in their habitat to survive, and how can their adaptations help them survive in their habitat?

Total Time: 4 days

LESSON 1
How are animals and plants adapted to particular habitats?

section 2
How does an organism’s structure help it survive?

Total Time: 14 days

LESSON 2
What roles do behaviors and external structures play in an animal’s survival?

LESSON 3
What roles do internal structures play in an animal’s survival, and how do internal structures work with external structures to allow an animal to survive?

LESSON 4
What are external and internal causes of an animal’s behavior?

LESSON 5
How do animals’ senses help them to survive?

LESSON 6
How does light help us see?

section 3
What are the different ways that animals use their senses and structures to help them receive and respond to information from the environment?

Total Time: 12 days

LESSON 7
How can we compare the way very different creatures take in and respond to information from their environment?

LESSON 8
How does an insect use its senses to respond to its environment and help it survive?

LESSON 9
How can we design an ideal habitat for an insect?

STORYLINE
In this unit, students explore how different organisms use their body structures in order to sense, respond to their environment, and survive. The Crosscutting Concepts of Structure and Function, as well as Systems and System Models, are prominently featured in this unit. Students come to understand an organism as a system of structures that each have their own specific function. These structures work together in order to help the organism survive.

To begin, students discover the components of a healthy habitat, how living things use the components of a habitat, and how different organisms adapt to live in a particular environment. After building a solid foundation concerning how living things live in and adapt to their environment, students learn about the role that external features, such as beaks, claws, and eyes, and internal structures, such as bones, play in the survival of an animal. The students classify external structures and understand that they are adaptations. They make claims and provide evidence for how an animal’s different structures work together to help it survive. Students also investigate how animals use their senses in order to respond to external and internal cues, with a particular focus on the sense of sight.

Once students have explored specific external and internal structures that aid in survival, students create a research presentation in order to compare and contrast how mammals, birds, fish, and reptiles sense and respond to their environment. To culminate the unit, students investigate how mealworms use their body structures to sense and respond to their environment in order to survive, and use the data from these investigations in order to design an ideal habitat for mealworms.