

## **HIGH SCHOOL BIOLOGY LABS**

Wednesdays, January 28-April 29 (No class Feb 18, Apr 8; 12 weeks)

9:30am-11:00am

Ages 14+

In our High School Biology Labs, students investigate the fundamentals of life from cells and biological processes (fall semester) to invertebrate and vertebrate anatomy (spring semester). Students learn laboratory techniques and perform hands-on science experiments commonly required in many high school biology curricula. A brief review of relevant material starts each lab, followed by a lab period which includes lab preparation, experimentation and clean-up. Students work semi-independently to conduct each lab, and have the option to complete reports for each investigation (to be evaluated by the parent). All lab costs are included in registration fees.

Instructor: Ashley Blocker, BSc

Location: STEM Lab (suite 21)

Course fee: \$275 OR \$25/lab

10% sibling discount

Register for full semester or individual labs.

### **LAB SCHEDULE:**

#### **MICROSCOPIC ORGANISMS - Wednesday, January 28**

Students study the diversity of aquatic microorganisms as they conduct a microscopic survey of pond water samples for protists, microalgae and microinvertebrates.

#### **FUNGI LAB - Wednesday, February 4**

We examine the anatomy, biology and ecology of mushrooms, molds and other fungi and discuss their important role in our ecosystem.

#### **PLANT ANATOMY - Wednesday, February 11**

Our attention turns to botany this week as we study the anatomical features of leaves, flowers and seeds, classification of fruits, and plant adaptations that increase pollination and dispersal.

#### **CLAM & SQUID DISSECTIONS - Wednesday, February 25**

We examine the internal and external anatomy of two diverse members of the phylum Mollusca to determine how these features enable their survival in their environments.

#### **CRAYFISH DISSECTIONS - Wednesday, March 4**

Students investigate the internal and external anatomy of a crayfish, exploring how features like gills, swimmerets, pincers, and compound eyes help it breathe, move, feed, and defend itself in its environment.

### **WORM DISSECTIONS** - Wednesday, March 11

Explore the anatomy of two groups of worms, segmented worms and roundworms, as we dissect representatives of each.

### **NERVOUS SYSTEM** - Wednesday, March 18

Learn about the nervous system and the anatomy of the brain and eye as we investigate a sheep brain and dissect a preserved cow eye.

### **FISH DISSECTION** - Wednesday, March 25

Students study the anatomy and physiology of bony fish and learn about adaptations allowing these vertebrates to live underwater.

### **SHARK ANATOMY** - Wednesday, April 1

We study the diversity in morphology and anatomy of sharks as we investigate shark dentition and the external anatomy of a spiny dogfish shark.

### **FROG DISSECTION** - Wednesday, April 15

Students investigate the external and internal anatomy of a vertebrate, the grass frog, *Rana forreri*. Focus will be on proper dissection technique, as well as specific body systems and anatomical functions.

### **FETAL PIG DISSECTION** (two weeks) - Wednesday, April 22 and April 29

We study mammalian organ systems as we investigate the external and internal anatomy of a fetal pig. Using proper dissection techniques, students perform the dissection over a two-week period.