



Classroom Teacher Preparation

Anatomy/Physiology 10: Frog Dissection

Please use the following to prepare for the next SfS lesson.

Description:

After reviewing lab safety and introducing the dissection procedure, students dissect a preserved frog in order to observe the external and internal structures of frog anatomy. This lesson is recommended for students in 5th grade or above with at least 60 minutes of class time.

Lesson Objectives – SWBAT (“Students Will Be Able To...”):

5th-8th

- Participate in a scientific dissection
- Examine the external and internal anatomy and identify the major organs of a vertebrate
- Recognize similarities and differences between frog and human anatomy

Disciplinary Core Idea (DCI)

LS1 From Molecules to Organisms: Structures and Processes – LS1.A Structure and Function

- (3rd-5th) Organisms have both internal and external macroscopic structures that allow for growth, survival, behavior, and reproduction.
- (6th-8th) All living things are made up of cells. In organisms, cells work together to form tissues and organs that are specialized for particular body functions.

Science & Engineering Practice (SEP)

Developing and Using Models

Preparation:

This lesson is a general introduction to vertebrate anatomy. Students do not need background knowledge of the subject matter.

We have prepared a *Dissection Letter for Parents* that can be distributed upon request. Please let your instructor know if you are interested.

Note: For students not wishing to participate in the dissection, there is a virtual *dissection* available (http://www.mhhe.com/biosci/genbio/virtual_labs/BL_16/BL_16.html). Access to tablets or a computer with audio and Internet access during class time would allow them to virtually review the material. Please make every attempt to provide a suitable computer or tablet during our class time.

Room Set Up for Activities:

Students will work in groups of 3. Clear table space is necessary. Students should remove all personal materials, food, and water from the desks before the start of the lesson. Pencils to use during the dissection will be provided.



Safety:

Students will be working with sharp dissection tools. Protective eyewear must be worn at all times during this activity and gloves are required. We use powder-free latex gloves by default, however a box of one-size-fits all polyethylene (non-latex) gloves will also be available, and substitute gloves of another material are available **for the whole class upon special request ahead of time**. Please inform the instructor of a latex allergy before the day of the lesson. Hands and tables should be washed following the lesson.

Related Modules:

This module is an overview anatomy lesson highlighting several vertebrate organ systems. We also offer anatomy lessons that focus on specific organ systems including:

Anatomy/Physiology 14: Eye Dissection – Students explore the anatomy of a preserved sheep eye with a review of mammalian eye anatomy and the basic mechanics of vision. **This is a better option for younger students and shorter class times.**

Anatomy/Physiology 15: Heart Dissection – The basic pathways of blood flow and the physiology of heart function are introduced. Students complete a dissection of a preserved sheep heart to identify key external and internal structures.

Anatomy/Physiology 18: The Mammalian Brain – Students examine preserved sheep brains to learn about the different structures of the brain, including cerebrum, cerebellum, and brainstem. Lobes of the brain and their functions are introduced. This is *not* a dissection. **This is a better option for younger students and shorter class times, or as a introduction to handling preserved organs before this lesson.**

Standards Covered:

Please click the following link to our website to review the standards covered by this lesson, listed by state:

<http://www.sciencefromscientists.org/standards/>

Lessons are matched to both national NGSS and local state standards.

After Our Visit:

Extend this lesson by making a layered paper model of the frog anatomy and can be created as a fun and crafty review of the lesson.

Access this Extension activity by visiting the Classroom Post found on our website at sciencefromscientists.org/cohorts. Use the name of your school/cohort and password to log in.

To help Evaluate, check out our Open Response questions online at sciencefromscientists.org/open-response-questions. They are freely available for all of our lessons for current teachers. Use the password supplied by your instructor to log in.

Additional Resources:

- Why Do Students Dissect Frogs Article: <http://mentalfloss.com/article/49855/why-do-students-dissect-frogs>
- Frog Dissection Pre-lab Video (11:07): <https://www.youtube.com/watch?v=AEkHdmZASmM>
- Life Cycle of a Frog: <http://www.kidzone.ws/lw/frogs/facts3.htm>

