



Classroom Teacher Preparation

Anatomy/Physiology 10: Frog Dissection

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

Description:

This lesson explores frog anatomy and how frog structures and functions relate to human anatomy. Students will dissect a frog in small groups. They will identify the organs and then classify them according to their functional group. After the dissection, students will compare their findings and classifications with other students and present on one system.

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

5th-8th

- Dissect a frog with partners and identify major organs
- Formulate an explanation for which organs are responsible for major life functions (digestive, respiratory, excretory, etc.)

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)

Engaging in Argument from Evidence

- (3rd-5th) Construct and/or support an argument with evidence, data, and/or a model.
- (6th-8th) Construct, use, and/or present an oral and written argument supported by empirical evidence and scientific reasoning to support or refute an explanation or a model for a phenomenon or a solution to a problem.

Crosscutting Concept (CCC)

Systems and Systems Models

- (3rd-5th) A system is a group of related parts that make up a whole and can carry out functions its individual parts cannot.
- (6th-8th) Systems may interact with other systems; they may have sub-systems and be a part of larger complex systems.

Preparation:

Students will be dissecting frogs in order to compare frog and human anatomy. It would be very helpful if students were familiarized with mammalian internal anatomy prior to our visit.

For students who are uncomfortable performing the dissection, they can perform a virtual dissection online. Please ensure computers or tablets with internet access are accessible for any students who may prefer this.



We have also prepared a dissection letter which can be distributed to students/parents if necessary. Please let your instructor know if you would like this.

Room Set Up for Activities:

Students will work in groups of 3-4 at their tables to dissect their specimen. Students should dispose of any food or drink prior to performing the lab.

Safety:

We will bring in proper protection wear for students during the dissection. If any students in your class have a latex allergy, please inform us the week prior so we can bring in latex-free gloves.

Related Modules:

This lesson may be taught as part of a sequence or group of related modules on **mammalian anatomy**. Modules include:

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.

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 17: Model Lung – Students learn about the structure and function of the human respiratory system through building a working model lung.

For other module sequences and groups, look here: www.sciencefromscientists.org/sequences

Standards Covered:

Please click the following link to our website to review the standards covered by this lesson, listed by state: 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 frog anatomy as a fun and crafty review of the dissection.

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

