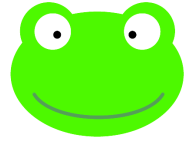


Name _____ Date: _____ Period: _____



Frog Dissection Pre-lab

Directions: Click on the link on Schoology "Virtual Frog Dissection". Click on the "Introduction" & "External Anatomy" sections to answer the questions. Use the other web links on Schoology to label the frog's internal organs with location and function. Expect to take about an hour to prepare for this dissection.

1. Kingdom _____
2. Phylum _____
3. SubPhylum _____
4. Class _____
5. Why are frogs said to have "two lives?"
6. How are amphibians different from reptiles?
7. What are 3 adaptations that frogs have that make them amphibians?
8. List the ways in which tadpoles (immature frogs) and frogs differ from each other?

External Anatomy

9. Dorsal means?
10. Ventral means?
11. Anterior means?
12. Posterior means?
13. Head means?
14. Torso means?
15. Frog lungs are poorly developed. How does this relate to their skin being thin and moist?
16. How does the tympanic membrane work?
17. Name 2 ways forelimbs are different than hind limbs.

Critical Thinking Questions

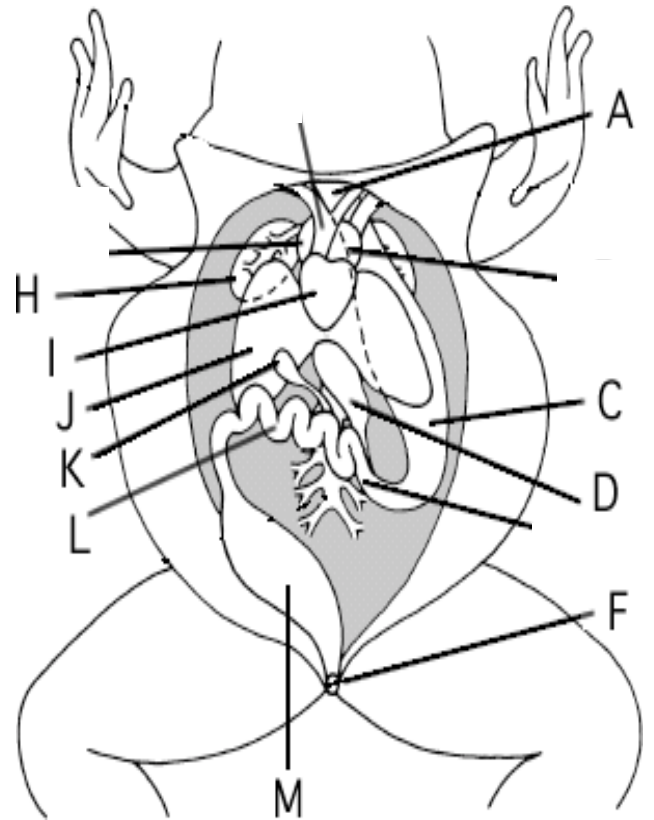
18. Frogs produce a huge number of gametes (sperm/eggs) at one time - WHY do you think this is? (HINT: Finding Nemo)?

19. The frog's tongue is anchored in the very front - opposite to the orientation and anchoring of humans. Why do you think this is so

Instructions for Internal Anatomy

20. You will need to visit the other two links on Schoology to identify and describe the internal structures of a frog. ***Please color-code the parts.

- A. Esophagus (yellow) _____
○ _____
- C. Stomach (purple) _____
○ _____
- D. Pancreas (orange) _____
○ _____
- F. Cloaca (black) _____
○ _____
- H. Lung (dark blue) _____
○ _____
- I. Heart (red) _____
○ _____
- J. Liver (brown) _____
○ _____
- K. Gallbladder (lt. green) _____
○ _____
- L. Small Intestine (Dark green) _____
○ _____
- M. Large Intestine (lt. blue) _____
○ _____



Name: _____ Date: _____ Period: _____



FROG DISSECTION LAB WORKSHEET

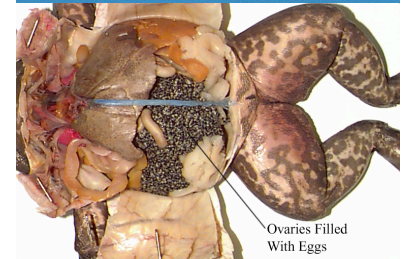
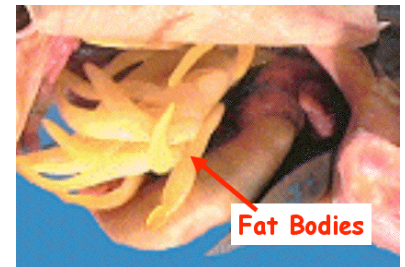


GETTING STARTED

1. Gather your dissection materials and frog specimen according to the directions given by your instructor.
2. On your laptop go to the "Virtual Frog Dissection" link on Schoology and click on "Internal Anatomy"

INITIAL CUT

3. Play the video about how to position your frog and make your first cuts. **WATCH THE VIDEO ALL THE WAY BEFORE MAKING ANY CUTS!**
4. After watching the video, click "Next" to move through the virtual dissection. **As you make cuts to your virtual frog make the same cuts on your actual frog.**
5. At the end of the "Initial Cut" section your actual frog should be pinned to your tray with the skin and muscle flaps pinned down as shown in the virtual dissection.
6. Look at your actual frog. If you see fat bodies (bright orange, yellow greasy noodles) use your scissors to cut them out. **DO NOT CUT OUT THE INTESTINES BY MISTAKE! Please ask your instructor if you need help identifying any fat bodies. Place the fat bodies on your dissecting tray.**
7. If you have a female frog you may see hundreds of eggs that look like black dots. **Carefully remove these eggs and place them on your dissecting tray.**



DIGESTIVE SYSTEM

8. Skip the video that appears and click "Next".
9. As the virtual dissection goes through the structures of the digestive system follow along using your pre-lab worksheet. Continue to click "Next" to move through each step of the virtual dissection.
10. As you make cuts to your virtual frog to remove each organ make the same cuts to your actual frog. **Place each organ in the correct box of your Organ Identification Table. Be sure to place a double layer of paper towel under the worksheet.**
11. **After cutting out the stomach cut lengthwise along the stomach to see if there is any food still inside!** Notice the stomach muscles - they look ribbed.
12. **BEFORE CUTTING OUT THE INTESTINES**, look at the small intestine - notice the very small blood vessels around it? This is where the nutrients from digested food make it into the bloodstream to be transported to other organs.
13. Use the virtual dissection to cut out the intestines.
14. **Cut into the large intestine to see if you can find any waste there!**

RESPIRATORY & CIRCULATORY SYSTEMS

15. Move through the virtual dissection by clicking "Next". Be sure to watch the videos that are provided.
16. How many chambers does a frog's heart have? _____
 - _____ atria and _____ ventricle(s)
17. Why is a frog's heart less efficient than a human heart?
18. The virtual dissection will not have you remove the heart and lungs, but you will cut these organs from your actual frog. Use your scissors to carefully make incisions where the heart and lungs are attached to the body. Place each organ in your Organ Identification Table.

REPRODUCTIVE SYSTEM

19. Move through the virtual dissection by clicking "Next".
20. What is the male reproductive organ identified in the virtual dissection? _____
21. What is the female reproductive organ identified in the virtual dissection? _____
22. What is the function of fat bodies?

EXCRETORY SYSTEM

23. Move through the virtual dissection by clicking "Next".
24. What is the function of the kidneys?
25. The ureters are the tubes attached to the kidneys. What is their function?
26. The virtual dissection will not have you remove the kidneys, but you will cut these organs from your actual frog. Gently lift the kidneys with your tweezers and cut through the membrane attached to the back. Place the organs on your table.

NERVOUS SYSTEM

27. **You do not need to go through this section of the virtual dissection.**
28. However, observe the little white threads on both sides of the spine that extend down the legs. These are called nerve bundles.

MUSCULAR SYSTEM

29. Move through the virtual dissection by clicking "Next".
30. Watch the video "Looking at Hind Leg Muscle" closely. **Follow its instructions to remove the skin on one of the hind legs of your actual frog.** Use your tweezers to separate and identify specific muscles.

****EXTRA CREDIT****

1. Go to the "Nervous System" section of the virtual dissection.
2. Watch the video "Cutting Through the Skull" and follow the instructions on your actual frog.
3. Carefully use your scissors and tweezers to cut the frog's brain and remove it from the skull. **Use the virtual dissection to make sure that the entire brain has been correctly identified for removal.**
4. Place the brain on your organ table. Use a pencil to draw lines on the paper to label the three lobes described in the virtual dissection.

CLEAN UP (only after your dissection has been checked off by your instructor!)

- The frog specimen and all removed organs must go in the garbage bag provided by your instructor.
- All paper towels, gloves and your organ identification table must also go in the garbage bag.
- Remove **ALL** solid matter from your dissecting tray before rinsing the metal tray and blue plastic in the sink. Stack your tray and plastic inserts as your instructor has shown you so they can air-dry properly.
- Rinse all scissors, tweezers and pins in the sink. Pat them dry with a paper towel and return to the cart.
- Return goggles to the sanitizer cabinet.
- Stand by your lab station and have your instructor check off that your station is clean.

DISSECTION CHECKLIST

<i>Requirement</i>	<i>Instructor Initials</i>	<i>Points</i>
All sections of the virtual dissection completed and questions answered.		/10
All organs removed and correctly identified.		/10
Frog specimen and organs appropriately disposed of.		/10
All equipment properly cleaned and stored. Goggles returned to sanitizer cabinet.		/10
EXTRA CREDIT Brain satisfactorily removed and three lobes labeled.		
	TOTAL	/40

DISSECTION POST-TEST

- 1.
- 2.
- 3.
- 4.
- 5.