

Frog Dissection Lab and Answer Sheet

Name _____

Date _____

You will need to go online to answer some of this information. During the lab please follow directions and *answer questions in italics during the lab* and answer all others later.

Part A: Introduction

1. What class does the frog belong to?
2. Why does a frog belong to that class?
3. Why are amphibians considered to be a unique evolutionary group?

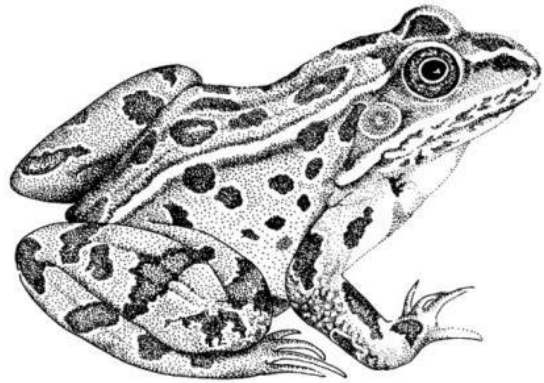
Part B: External Anatomy

Orientation

4. *Locate the following orientations on your frog:*

- a. *Dorsal side*
- b. *Ventral side*
- c. *Anterior end (Cranial)*
- d. *Posterior end (Caudal)*
- e. *Medial*
- f. *Lateral*

Label the orientations on the frog picture below.



5. *How do the ventral and dorsal sides differ in color?*

- a. *dorsal side color* _____
- b. *ventral side color* _____

6. **Observe the Size.** *Use a ruler to measure your frog, measure from the anterior (tip of the head) to the posterior tip (end of the frog's backbone—do not include the legs in your measurement).*

Your frog in cm _____

Observe the Appendages

7. *Examine the hind legs (back legs). How many toes are present? _____ Are the toes webbed? _____*

8. Examine the forelegs (front). How many toes are present? _____ Are the toes webbed? _____

Observe the Skin

9. Feel the frog's skin. Is it scaly or is it slimy?

10. Bull frogs have mostly green skin while the grass frog or leopard frog has large spots. What is the scientific name (genus and species) of your frog?

Observe the Tympanic Membrane

11. What structure in humans works like the frog's tympanic membrane?

Part C: Head & Mouth Anatomy

Mouth & Head Anatomy

12. Locate the following head and mouth structures of the frog.

- | | | |
|-------------------|---------------------|----------------------|
| a. External nares | b. internal nares | c. Tympanic membrane |
| d. Tongue | e. Eustachian tubes | f. Glottis |

13. Where does the tongue attach to the mouth?

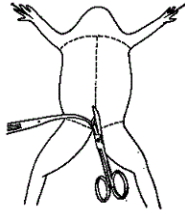
14. List the function for the following structures:

- a. External nares
- b. Internal nares
- c. Tympanic membrane
- d. Tongue
- e. Eustachian tubes
- f. Glottis
- g. Nictitating membrane

Part D: Organs of the Body Cavity

Dissection Instructions

- A. Place the frog in the dissecting pan ventral side up.
- B. Use the scalpel to cut through the frog's skin so you can see the muscle tissue. Cut along the midline of the body to the forelimbs.



- C. Once you have looked at the muscle tissue, then use your scissors or your scalpel to carefully cut through muscle tissue without cutting the internal organs.
- D. Cut far enough so the flap of muscle stays open.

15. Locate each of the organs below. Check the box to indicate that you found the organs.

a. **Liver**—The largest structure of the body cavity. This brown colored organ is composed of three lobes. The **right lobe**, the **left anterior lobe**, and the **left posterior lobe**.

b. **Heart**—At the top of the liver, the heart is a triangular structure. The **left and right atrium** can be found at the top of the heart. A simple **ventricle** located at the bottom of the heart.

The vessels attached to the heart are the arteries: arterial trunk, systemic arch, dorsal aorta and veins: posterior vena cava, anterior vena cava.

c. **Lungs**—Locate the lungs by looking underneath and behind the heart and liver. They are two spongy organs.

d. **Gall Bladder**—Lift the lobes of the liver, there will be a small green sac under the liver.

e. **Stomach**—Curving from underneath the liver is the stomach. The stomach is the first major site of chemical digestion. Frogs swallow their meals whole.

f. **Small Intestine**—Leading from the stomach. The first straight section is called the **duodenum**, the curled section is the **ileum**. The ileum is held together by a membrane called **mesentery**. Blood vessels running through the mesentery carry absorbed nutrients away from the intestines.

g. **Large Intestine**—As you follow the small intestine down, it will widen into the large intestine. The large intestine leads to the cloaca, which is the last stop before solid wastes, sperm, eggs and urine exits the frog's body.

h. **Spleen**—Return to the folds of mesentery, this dark red spherical object serves as a holding area for blood.

I. **Esophagus**—Return to the stomach and follow it upward, where it gets smaller is the beginning of the esophagus.

16. *Measuring the small intestine- Remove the small intestine carefully separate the mesentery from it. Stretch the small intestine out and measure it.*

Intestine length _____ cm Compare this to your Frog length from earlier _____ cm

17. *Locate each of the Urogenital System organs below. Check the box to indicate that you found the organs.*

The frog's reproductive and excretory system is combined into one system called the urogenital system. You will need to know the structures for both male and female frogs; however, we will only be using female frogs.

- a. **Kidneys**—flattened bean shaped organs located at the lower back of the frog near the spine. They are a dark color. The kidneys filter wastes from the blood.
- b. **Testes**—in male frogs, these organs are located at the top of the kidneys.
- c. **Oviducts**—females-you may see a curly structure near the kidneys.
This is where **eggs** are produced.
- d. **Bladder**—An empty sac located at the lowest part of the body cavity.
- e. **Cloaca**—opening where urine, sperm and eggs exit.

Clean Up

Now that you have finished with your frog please deposit your frog organs in a plastic bag and for disposal.

Rinse and dry all of your dissection tools (open scissors to dry).

Wipe down your trays and your station.