**Due: DAY OF DISSECTION! Dissection Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

*Biology*

**Virtual Frog Dissection**

**Frog Dissection Pre-lab**

Directions: Watch the virtual Dissection <http://mhhe.com/biosci/genbio/virtual_labs/BL_16/BL_16.html> (link on the webpage) “Introduction” & “External Anatomy” to answer the questions. Use the second web link to label the frog’s internal organs with location and function. Expect to take about an hour to prepare for this dissection.

***Introduction***

1. Phylum
2. SubPhylum
3. Class
4. Why are frogs said to have “two lives?”

***External Anatomy***

1. Dorsal means?
2. Ventral means?
3. Anterior means?
4. Posterior means?
5. Head means?
6. Torso means?
7. Frog lungs are poorly developed. How does this relate to their skin being thin and moist?

1. How does the tympanic membrane work?

1. List 2 ways forelimbs are different than hind limbs

1.

2. \_

1. On the virtual frog dissection, what organ was removed first?
2. On the virtual frog dissection, what organ was removed second?
3. On the virtual frog dissection, what organ was removed third?
4. On the virtual frog dissection, what organ was removed fourth?

18. Frogs exchange gasses through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

19. The glottis leads to the frog’s \_\_\_\_\_\_ which connects the mouth to the .

20. Arteries carry blood the heart.

 Veins carry blood the heart.

21. connect arteries to veins.

22. A frog’s heart has chambers. Two atrium and ventricle.

23. Urine and solid waste leaves the frog’s body through an opening called the .

24. Muscle tissue is usually grouped into large .

25. A frog’s skeleton is made up of regions.

26. The axial region consists of \_\_\_\_\_\_\_\_\_\_\_\_ bones. The appendicular skeleton consists of \_\_\_\_\_\_\_\_\_\_\_\_ bones.

27. 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? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

***Internal Anatomy***

You will need to visit the second website to identify the location and function of each organ of the frog’s internal anatomy: <http://www.biologycorner.com/bio2/notes-frog.html>(Link is on webpage). *Please color code the parts.*

1. Esophagus (yellow)



1. Stomach (purple)

1. Pancreas (orange)

1. Cloaca (black)

1. Lung (dark blue)

1. Heart (red)

1. Liver (brown)

1. Gallbladder (lt. green)

1. Small Intestine (dk. green)

1. Large Intestine (lt. green)

***Analysis Questions:***

1. Researchers Robert Briggs and Thomas King used ultraviolet radiation to destroy the nuclear DNA of frog eggs. Nuclei from adult skin cells and from tadpole-gut epithelial cells were cultured and then injected into eggs that had their nuclei destroyed. The results were tadpoles.



Which conclusion is supported by the data from this investigation?

1. The DNA information from development was silenced in differentiated cells.
2. The transplanted DNA functioned as the original nuclear DNA of the egg cell would have.
3. The DNA from skin cells and epithelial cells was not transcribed.
4. The transplanted DNA mutated during culturing.
5. Which of the following correctly describes an interaction that occurs between two body systems of a rabbit that helps the rabbit outrun a pursuing coyote?
6. The skeletal system releases additional calcium, and the circulatory system retains more sodium in the blood to provide muscles with ions for contraction.
7. The digestive system increases the rate of digestion, and the excretory system ceases to provide tissues with more nutrients.
8. The respiratory system increases the breathing rate, and the circulatory system increases the blood pressure to provide tissues with more oxygen.
9. The endocrine system released hormones that prepare the immune system to deal with possible injuries.
10. What two human systems work together to provide body cells with a constant supply of oxygen while removing carbon dioxide waste products?
11. Nervous and endocrine
12. Muscular and skeletal
13. Respiratory and circulatory
14. Excretory and integumentary