

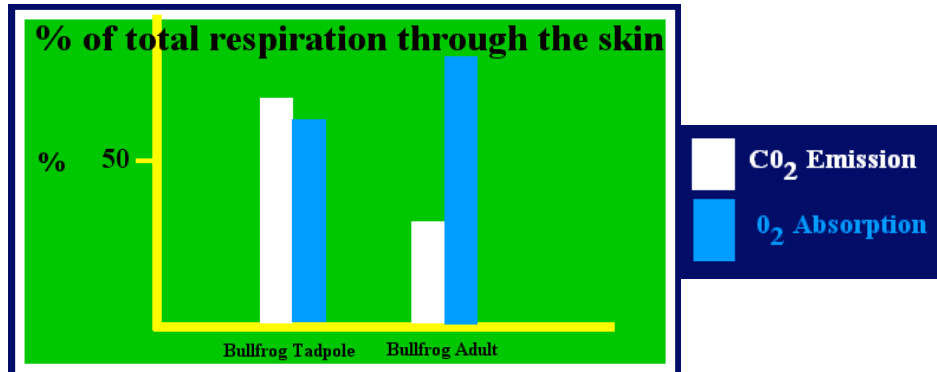
## Frog DVD Student Guide

As you explore the Frog DVD, answer the following on your own paper:

1. Frogs and toads are part of the class of animals known as amphibians. What is the meaning of the term “amphibian” and why is this term used to describe this group of animals?
2. There are three orders of Amphibians. Which order includes frogs and toads, and how do the characteristics of the animals in this order differ from those in the other two?
3. List the families of frogs and toads that are found in our part of the world. (*Hint: check out the maps*)
4. What is meant by the terms oviparity and ovoviviparity? Which of these describes the reproduction of *most* frogs and toads?
5. Describe four ways that some species of frogs and toads protect their young.
6. What is found in the skin of frogs and toads that affects their color and how does it help them survive?
7. Name the smallest and the largest species of frogs and the size of each.
8. After exploring the families of frogs under the *Diversity/Information* section, pick your favorite family. Explain why it’s your favorite, and give three interesting facts about that family.
9. After exploring the organs of the frog on the DVD, explain whether the pictured frog is a male or female and how you determined this.
10. Compare the frog skeleton to what you know about the skeleton of humans. In what ways are they similar?
11. Using what you learn about osmosis and diffusion and frogs from the DVD, analyze the following story:

Camilla and Casey were staying at the beach for spring break. Their house was in a wooded area next to a salt marsh. One day they found a frog and decided to observe him for a couple of days. Camilla put the frog in bucket she found in the kitchen. Also in the kitchen was a jug of distilled water. Casey started to pour the water in the bucket to keep the frog moist. Camilla stopped her and told her that it would be better to have some water from outside from where the frog lives. Casey looked around outside and then took a bucket to the dock and gathered some water from the marsh. She brought it inside but after hearing where she got it, Camilla stopped her from putting it in the bucket, telling Casey that it is bad for the frog. They decided the frog would be better off outside and let it go. **Explain why Camilla is concerned about how different types of water may affect the frog.**

12. Why is *ectothermic* a better term than *cold blooded* for describing amphibians such as frogs?
13. After reading about the  $Q_{10}$  Effect, explain why temperature has such a significant impact on the metabolic rate of frogs and other amphibians.
14. Using this graph from the DVD, compare the importance of the skin in respiration in tadpoles versus adult bullfrogs.



15. What is metamorphosis and how is it different in frogs than insects?
16. How are hormones important to metamorphosis in tadpoles?
17. Why is being frozen dangerous for living things?
18. How do some frogs tolerate freezing conditions?
19. Like all living things some amphibians have become extinct in the ancient past, why are scientists concerned about the current extinction rate of amphibians?
20. Frogs are most common in humid tropical areas but frogs can also be found in extreme habitats such as the tundra and in deserts. Choose one of these extreme habitats and explain how frogs survive there.
21. How and why do frogs communicate?
22. Why do toads and some frogs need to migrate and how do they find their way?
23. Why are frogs good models for scientists to use in biomedical research?
24. How do bladder flukes living in adult frogs insure that their young are able to infect the tadpoles of the frog?
25. Use the DVD to research careers related to animals in biomedical research. Choose one and explain why you find that one the most interesting and how you should prepare for that job.