Mammalogy: Review Questions for Week 3

1. Define endothermy? Why did it evolve in mammals?
2. What is the "set point" with regards to thermoregulation? Where is it regulated? How does it vary among monotremes, marsupials, and placentals?
3. What is the main advantage of endothermy?
4. What is the main disadvantage of endothermy? What are the consequences of this?
5. Fully explain (don’t just list) the main advantages and costs of endothermy in mammals.
6. List three diagnostic [that is, are used to distinguish mammals from other vertebrates] mammalian characters that are related (that is, evolved in order to promote) to endothermy. Briefly explain how each of these three helps maintain endothermy.
7. Give the functions of these skin glands that occur in mammals. How do sweat and sebaceous glands help maintain endothermy?
   a. Sweat
   b. Sebaceous
   c. Scent
   d. Mammary
8. Mammary glands are thought to have evolved from what kind of glands?
9. Why is the Dayak bat an unusual mammal?
10. For the following terms related to hair, explain what each is, give an example, and discuss the function: pelage, vibrissae, molting, cryptic, disruptive, aposematic.
11. Other than insulation, fully explain (don’t just list) and give examples of the four most important functions of hair in mammals.
12. Give an example of disruptive coloration. What is its function? [Explain how it does this]
13. What is aposematic coloration? Give at least two examples.
15. Describe the four chambered heart found in mammals. What is the most important advantage over a three chambered heart? Why? A second advantage? Why
16. What is the role of each of the following in relation to endothermy in mammals? nasoturbinal bones, muscular diaphragm, enucleate erythrocytes, four chambered heart
17. Why do mammals have a secondary palate?
18. For the following terms, define what they are and discuss their significance to mammalogy as noted in lecture
   a. adipose tissue
   b. ear ossicles
   c. naso-turbinal bones
   d. diphysodonty
   e. diaphragm
   f. primary palate
   g. secondary palate
   h. tapetum lucidum
   i. determinate growth.
19. For each of the animals pictured below, name the kind of coloration and/or type of hair and explain what it is and how it works.

![Images of various animals](image1.png)

20. For the mammal pictured below, discuss why it was mentioned in lecture.

![Images of various mammals](image2.png)