**Chapter 24 – The Origin of Species**

1. **Contrast** and **compare** the morphological species concept and the biological species concept.

2. **Discuss** which species concept(s) you would apply to asexual reproducing species.

3. **Describe** the role of reproductive isolation in the concept of what is a “species”.

5. For the following situations**, identify** if it is a pre- or postzygotic situation AND **predict** what

type of reproductive barrier is probably in place.

1. Two species of dragonflies emerge during different weeks in the summer
2. Tree frogs breed in woodland ponds; leopard frogs breed in swamps
3. Two flower species with different length nectar tubes are pollinated by different moths
4. Two species of *Streptocarpus* are crossed and produced viable, but sterile offspring
5. Two species of coral release gametes on the same night, but no cross fertilization occurs
6. Two similar looking species of birds have different courting songs and dances

6. **Contrast** and **compare** Allopatric and Sympatric speciation.

7. Consider two species that diverged while geographically separated, but resumed contact

before reproductive isolation was complete.  **Predict** what would happen over time if the two

species mated indiscriminately and:

a) the F1 hybrid offspring survived and reproduced as well as offspring from intraspecific

matings within each original species.

b) the F1 hybrid offspring survived, but reproduced more poorly than the offspring from

intraspecific matings within each original species

8. According to Punctuated Equilibrium, **discuss** what environmental characteristics facilitate

a “punctuated “state of rapid speciation and change. **Discuss** what environmental

characteristics facilitate an equilibrium rate of speciation and change.

9. **Discuss** why the Punctuated Equilibrium is a better model for dealing with gaps and missing

links in the fossil record.

10. Examine the Monkey flower case on page 504. **Discus** the role of pollinator choice in the

speciation of these plants.

11. Speciation can occur rapidly between diverging populations, yet the time between speciation

events is often a million years. **Explain** this apparent contradiction.