Name: _____ Date: _____ Period: ____

Lizards in an Evolutionary Tree Week #____

Directions: Watch the short video and answer each question.

1. Name three habitats that anoles live in. _____
2. What do differences in leg length and toe pad size suggest? _____
3. Why are lizards with long legs sprinters? _____
4. What type of environment is a shorter-legged lizard adapted for? _____
5. What adaptation does the large canopy lizard have? _____
6. What type of lizards did the Jonathan collect for the experiment? _____
7. When the scientists returned a year later, what did they discover? _____
8. What is the flap of skin, called a dewlap, for? _____
9. A lizard that lives in a dark forest has what kind of dewlap? _____
10. Once new species have formed, what drives the evolution of body types? _____
11. What does it mean when two species have very few DNA differences? _____
12. What does a node represent? _____
13. The DNA revealed what pattern? _____
14. Why are there so many species in the world? _____

Directions: Below are two copies of the anole lizards (Anolis) cladograms. Color Figure 1 according to island and color Figure 2 according to ecomorph (habitat). Don't forget to make a key.

Figure 1

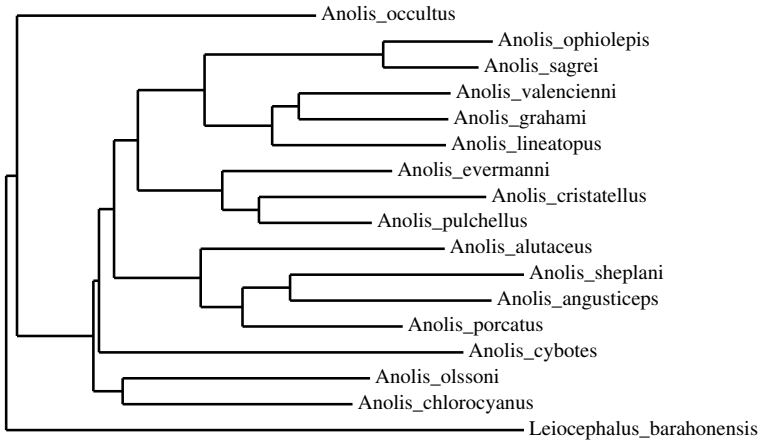
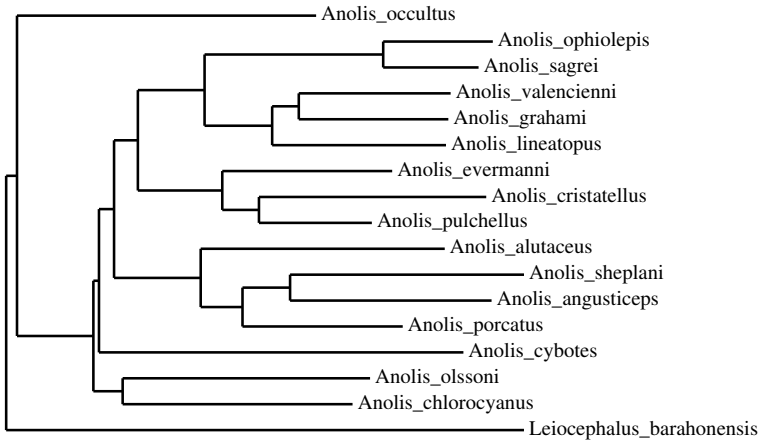


Figure 2



Name: _____ Date: _____ Period: ____

Directions: Answer the questions below based on the video and the cladograms.

1. What can you conclude about two species that share a more recent node? _____

   _____

2. What can you conclude about the species, *Leiocephalus barahonesis*? _____

   _____

3. What general patterns do you see in the cladogram…
   a. Colored by island? _____

      _____

   b. Colored by ecomorph? _____

      _____

4. Do species from the same island group together on the cladogram? Provide evidence to support your answer. _____

   _____

5. Do species from the same ecomorph group together on the cladogram? Provide evidence to support your answer. _____

   _____

6. The scientists tested two hypotheses:

   Hypothesis 1: Lizards evolved once to occupy different ecomorphs (habitats) and then migrated to other islands.
   Hypothesis 2: Lizards evolved to occupy different ecomorphs several times, independently of each other on the different islands.

   a. Which hypothesis is supported by the DNA analysis in the cladogram? Explain. _____

      _____

      _____

   b. Use the map below to show how these lizard species might have evolved.

7. Which species does not obey the hypothesis you stated in #6? Develop a possible hypothesis that could explain this. _____

   _____

   _____