Similarities and Differences: Understanding Homology and Analogy

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date Due \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Use the following website to answer the questions below:

<http://evolution.berkeley.edu/evolibrary/article/similarity_hs_01>

1. What is homology?
2. What is the example described in the introduction on the first page?
3. What is analogy?
4. What is the example described in the introduction on the first page of the tutorial?
5. What is different about the four limbs that does not belong in the grouping with the other two limbs? (select and keep clicking on the one that doesn’t belong.
6. What is a tetrapod?
7. What is the basic bone layout for these tetrapod limbs?
8. What are the four animals that these limbs belong to?



1. What is a family tree?

1. Structures inherited from a common ancestor are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. What structure on the elephant is homologous to the teeth of a beaver?
2. Why are the grasshopper leg and sea star arm not homologous?
3. Similar structures that evolved independently are called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
4. Why do the skulls look to be homologous structures?
5. How do analogous structures arise?
6. What happened to the flowers over time?
7. Do you think that sharks’ and dolphins’ similarities (body shape, fin, and flippers) are homologies or analogies?

1. What are three criteria that biologists use to help them decide whether a shared morphological character (such as the presence of four limbs) is likely to be a homology?

1. Considering all of the evidence, are the “wings” (actually flaps of skin stretched between the legs) of sugar glider and flying squirrels homologous or analogous structures?