Understanding Evolution: Homology and Analogy

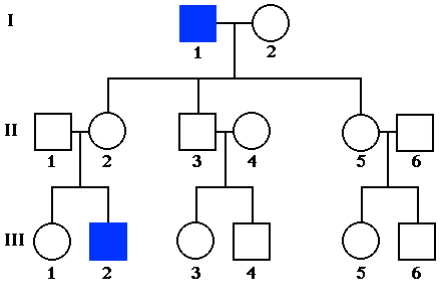
http://evolution.berkeley.edu/evolibrary/

Go to *"What is the Evidence for Evolution"*

Go to *"Similarities and differences: Understanding homology and analogy"*

1. In the image, **circle** the pair that represents a homology & put a **square** around the image that represents an analogy.

2. Define homology:



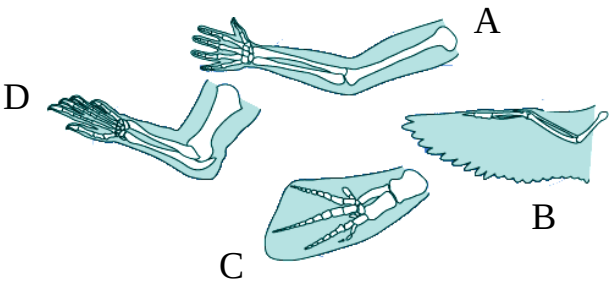
3. Circle one of the common ancestors of individuals III 2 and III 5

4. Define analogy:

5. What is a tetrapod?

6. What are the six bones found in all tetrapod legs?

7. Identify these limbs (to what animal do they belong)?



A.

B.

C.

D.

8. What did the common ancestor of all modern tetrapods look like?

   a. How long ago was it on Earth?

Side Trip: "not just anatomy."

9. How are a bird and a crocodile homologous?

   a. What type of evidence is this?

10. Describe how two unrelated flowers could evolve to have a similar appearance?

11. Are similarities between sharks and dolphins homologous or analogous?

12. What is morphology?

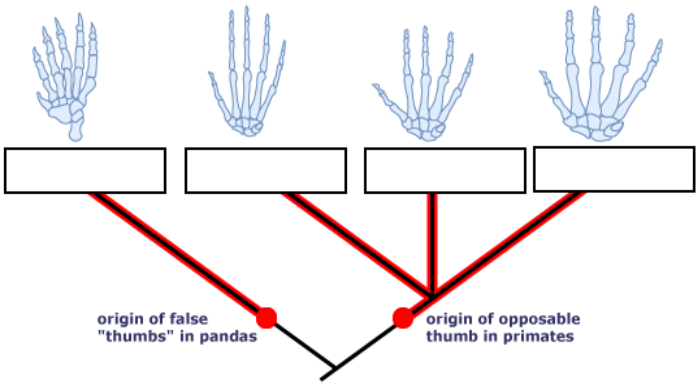
13. List three criteria that are used to determine whether something is a homology or analogy and what kind of evidence it is,

    a.

    b.

    c.

14. Fill in the blanks of the primate tree.



15. Considering all of the evidence, are the "wings" (actually flaps of skin stretched between the legs) of sugar gliders and flying squirrels homologous or analogous structures?

    a. List two pieces of evidence that support your answer. Underline the one that is anatomical evidence.

16. What other type of evidence do Biologist look at when trying to determine relationships between different species.

Side Trip: See more examples of homology and examples of analogy.

17. How are a Venus fly trap and a pitcher plant homologous?

    a. What type of evidence is this?

18. Biologists link the various species of the bowerbird to a common ancestor with what kind of evidence?

19. Give an example of genetic evidence that links insects, humans and birds to a common ancestor.

20. The evidence linking lizards and modern mammals to a common ancestor is genetic, behavioral or embryological?

21. What mechanism independently adapted Sugar gliders and flying squirrels for similar lifestyles: leaping from treetops (hence, the gliding "wings") and foraging at night (hence, the big eyes).

22. List four types of evidence that were discussed in this webquest.

    a. Use the highlighter to highlight one example of each in the questions/answers above.