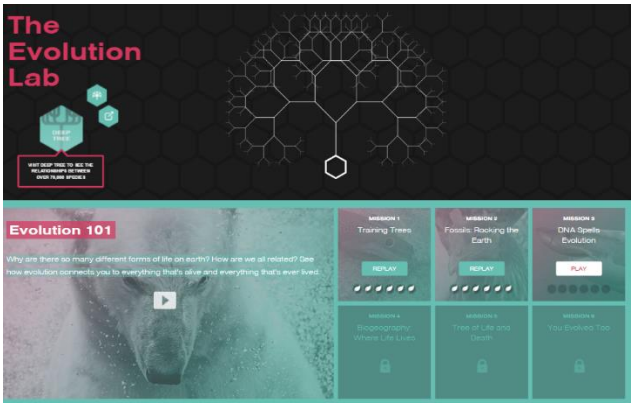
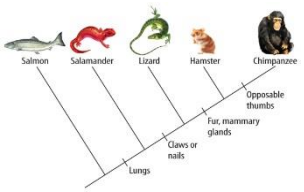
NAME: _____ Date: _____ Period: _____

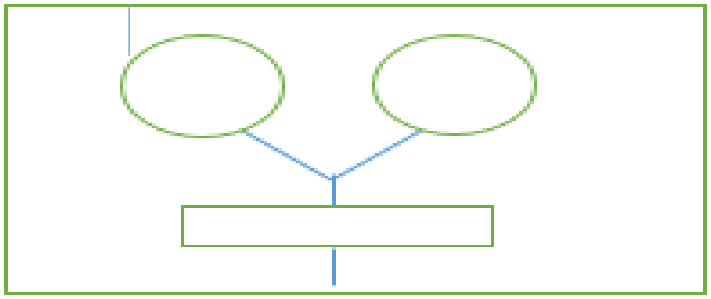


CLADOGRAM



Game

1. Go to this link hhttp://www.pbs.org/wgbh/nova/labs/lab/evolution/research#/chooser OR click the link found on www.biologybynapier.com on the Evolution Unit page.
2. Click the "Play" button found on the polar bear picture to watch the video and answer the following questions as you watch:
    a. What country is Charles Darwin from? _____
    b. What other person also theorized the idea of natural selection?
    _____
    c. What is natural selection? _____
    _____
    d. What color insect does the bird eat? _____
    e. What are the two key ingredients for natural selection
        i. _____
        ii. _____
    f. Describe how scientists believe the polar bear species came into existence.
    _____
    _____
    _____
    g. When Darwin drew how organisms were related, what did the image look like? _____
3. When you have finished the introduction. Press Play under Mission 1.
4. Watch the video and answer the questions:
    a. What does the top one branch represent? _____
    b. What does a split in a branch represent? _____
    c. What is the process called? _____
    d. The more closely related the species the _____ traits they share.
5. LET THE FUN BEGIN!!!!! Press Play RED, GREEN and GECKO.
6. Follow the directions on the screen to build your evolutionary tree.
7. What does your cladogram look like? (Write in the Organisms and what they have in common)



8. What is the name of a cell without a nucleus? (Hint: Eu/True & Pro/No)_____

9. Again follow the directions on the screen.
10. Read about each organism and answer the questions:
    a. What is an autotroph? _____
    b. What is a heterotroph? _____

11. Build your tree. Each organism will light up with the matching color to that trait. If it does not match it will be kicked off. Continue until all "colors" match to the organism. Use the number of circles at the top to help you in building the tree. The number of circles is how many of the traits on the left the organism will have.
12. Draw your tree listing the organisms at the top and the characteristics where they belong.

13. Answer the question on the screen. Is an animal or a plant more closely related to a fungus? _____ Why? _____

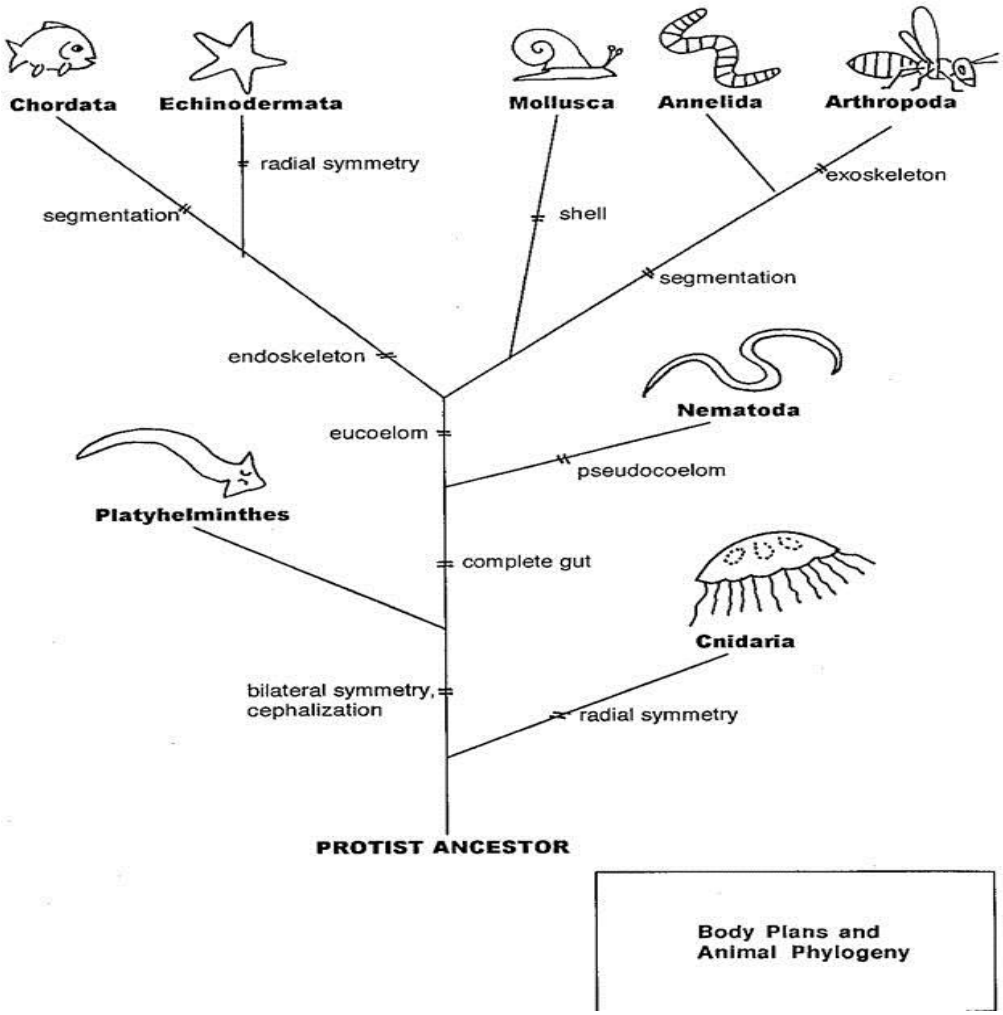
14. Press PLAY "Familiar Faces" YAY!!!! MORE FUN GAMES!!!!!!
15. Using the same directions from the last game to design your tree. Make sure you click on the magnifying glass to look at the characteristics of each organisms. Again, pay attention to the circles above each organism to use as clues as to how your tree should be arranged. Draw the tree listing the organisms and characteristics they share.

16. Answer the question on the screen. What trait does a stick insect, king snake, dog, and goldfish have in common? _____

17. Press PLAY for "Tree of Life: Vegetarian edition"

18. Using the same directions from the last game to design your tree. Make sure you click on the magnifying glass to look at the characteristics of each organisms. Again, pay attention to the circles above each organisms to use as clues as to how your tree should be arranged. Draw the tree listing the organisms and characteristics they share.

19. Answer the question on the screen. Is a banana more closely related to a lemon or an onion? _____ (What!!! Are you surprised?!?!) _____
20. Now, using your tree answer
    a. What traits does a radish and lemon have in common?
       _____
21. You may play other missions to challenge yourself! HAVE FUN!!!
22. Answer the questions on the next page



1. What traits do Nematoda and Mollusca have in common?

2. What trait separates Chordata from Mollusca?

3. The greatest difference in DNA would be found in which two species?

    A Annelids and Platyhelminthes

    B. Mollusca and Annelids

    C. Chordata and Mollusca

    D. Nematoda and Annelids

4. Which organism will have amino acid sequences most similar to a Chordata?