Name:_____

15-3 Darwin Presents His Case

1. The birds Darwin found turned out to be all _____
2. Why did Darwin not publish right away? _____
3. Who gave Darwin an incentive to publish? _____
4. What was the title of Darwin's book? _____
5. Describe a variation found among cows: _____ how about plants? _____
6. What is artificial selection? _____
7. What does the "struggle for existence" mean? _____
8. What is an adaptation? _____
9. Adaptations can be _____ or structural, or eve n behavioral.
10. What happens to individuals that are not well suited to their environment? _____

11. Over time, natural selection results in _____ in the inherited characteristics of a population, which increase a species _____ in its environment.
12. Darwin proposed that over long periods, _____ _____ produces organisms that have different _____, establish different _____, or occupy different habitats.
13. If we look far enough back in history, we could find the common ancestor of all living things. This is known as the principle of _____ _____.
14. Darwin argued that living things have been _____ on Earth for millions of years.

15. Evidence for this process could be found in the _____ record, the _____ distribution of living species, _____ _____ of living organisms, and similarities in early development, or _____.

16. Darwin saw _____ as a record of the history of life on Earth.
17. Researchers have discovered many hundreds of _____ _____ that document various intermediate stages in the evolution of modern species from organisms that are now _____.
18. _____ structures are the one type of evidence for the evolution of _____ things.
19. Structures that have different mature forms but develop from the same embryonic tissue are called _____ _____
20. Describe vestigial organs._____
_____
21. Give an example of a vestigial organ: _____
22. Embryos look similar showing that the embryonic cells develop in the same _____ and in similar _____.

23. **Summary of Darwin's Theory**
-Individual organisms differ, some of this _____ is heritable.
-Organisms produce more offspring than can _____
-Because more organisms are produced than can survive, they _____ for limited resources
-Each unique organism has different advantages and disadvantages. Individuals best suited for their environment survive and _____. These organisms pass their heritable _____ to their offspring.
-Species alive today are _____ with modification from ancestral species.

24. Scientific advances in many fields of biology, along with geology and physics, have _____ and _____ most of Darwin's hypothesis.
25. Evolution is often called the grand _____theory of life sciences
Interpreting Data (see fig 15-14, p 383)
26. Which animals has a larger range, the coypu or the muskrat? _____
Which one is native to North America? _____
Which animal would you find in the northern area of S. America? _____
27. He (Darwin) realized that similar animals in different locations were the product of different lines of _____ descent.

Testing Yourself

1. The ability of an organism to survive and reproduce in its natural environment is called:
a. natural selection b. evolution c. homologous d. fitness

2. Which of the following Is an important concept in Darwin's theory of evolution by natural selection?

a. Struggle for Existence
b. Species change over time
c. Descent with modification
d. both a & b e. a, b, and c

3. Which of the following does NOT provide evidence that living things have been evolving for millions of years?
a. fossil record
b. natural variation within a species
c. geographic distribution of species
d. homologous structures of living organisms
e. similarities of embryological development

4. A bird's wings are homologous to a(n):
a. fish's tailfin b. alligator's claws c. dog's front legs d. mosquito's wing

5. Which would an animal breeder use to produce cows that give more milk?
a. overproduction b. genetic isolation c. acquired characteristics d. artificial selection

6. Fitness is a result of:
a. adaptations b. common descent c. homologies d. natural selection