**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Evolution: Activity 4: Darwin and the development of a Theory**

**Directions: Use your textbooks to answer the following questions. Write in complete sentences.**

1. Define Biological evolution.
2. What book, published in 1809 presented one of the first theories of evolution? Who published this book?
3. What did Lamarck suggest in this book?
4. Describe Lamarck theory on how giraffe’s developed long necks.
5. Hat did Lamarck suggest would happen to a organ if it was not being used?
6. How does he use this theory to describe snakes and legs?
7. Why was Lamarck’s theory attacked and ignored by many of his colleagues?
8. Is Lamarck’s theory accepted today? Why or Why not?

**Darwin’s Observations on the Galapagos Islands**

1. What happened to Charles Darwin in the year 1831?
2. Why was Darwin accepted for this voyage?
3. What book did Darwin read while at sea?
4. What was the main point of this book? Give an example.
5. What did Darwin do over his 5 year voyage?
6. What 2 land-based geographic locations did Darwin study?
7. How many islands makes up the Galapagos?
8. What did each of these islands have in common?
9. What did he notice about the plants and animals on these islands?
10. What did Darwin wonder about the species specific to the Galapagos islands?
11. Identify some of the organisms Darwin brought back to England.
12. What did Darwin learn about his birds?
13. What did Darwin learn about the finch’s beaks?
14. Of all the species Darwin observed, why have the finches become best known?

**Variety of Artificial Selection through Breeding**

1. What information did Darwin gather from pigeon breeders?
2. How would breeders obtain specific desired traits for their pigeons?
3. Identify species that people applied artificial selection for thousands of years.
4. What did Darwin begin doing at his home and how did this contribute to his understanding of the finches he saw at the Galapagos?
5. Who was Thomas Malthus? Describe did he propose in regard to human populations?
6. What was Darwin’s reasoning because of his breakthrough?

**The Origin of Species**

1. Darwin spent 20 years gathering more facts for the theory of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
2. In 1858 Alfred Russel Wallace sent Darwin a summary of his own theory of natural selection and asked him to do what?
3. Identify the book that Darwin published in 1859. What did this book contain?
4. According to Darwin, what led to characteristics being preserved over time?
5. What does Darwin mean by natural selection?
6. Explain how natural selection changed the Galapagos finches that Darwin observed? How does natural selection alter beak shape and/or size?
7. Complete the following table:

|  |  |
| --- | --- |
| **Beak Shape** | **Food Source** |
| **Long/Pointed** |  |
| **Short/Wide** |  |
| **Thin/Sharp** |  |

1. Gradual accumulations of changes through natural selection eventually led to what?
2. In “The Descent of Man”, published in 1871, Darwin identified another mechanism for evolution which he called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
3. Define sexual selection:
4. How does sexual selection affect peacocks?
5. Define evidence:
6. Since its development, is there evidence to support the theory of natural selection?