**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_5**

**Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_**

**Horse Fossils….Evidence of Natural Selection**

**Introduction:** By studying fossils, paleontologists can see how species have changed over time. As you look at the fossils in older and older rock layers, the fossils usually look less and less like today’s organisms. Organisms found in the oldest rocks look the most different from today’s life forms.

In this activity you will analyze the fossil record of the horse. Horse fossils are common and show clear changes over time. Keep in mind that the fossil record show very slow changes, measured in millions of years. No single individual horse changed, rather, populations change as offspring best suited to their environment are able to survive and pass their traits on to their offspring.

**Procedures:**

1. Take the horse fossils, pictures and dates out of the envelope.
2. Match the dates, fossils and pictures for each horse.
3. Have your teacher check your work.
4. Fill in the data table with **simple drawings** of your matches.
5. When you have finished, answer the analysis questions below.

**Data:**

|  |  |  |
| --- | --- | --- |
| **Time** | **Leg Bones** | **Picture** |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

**Analysis**

* 1. What are two ways the horse has changed slowly over time?
  2. What evidence do scientists have to prove that organisms change over time (evolve)?
  3. Why would the animals that lived 20 million years ago look more like animals today than animals that lived 100 million years ago?
  4. What might be the reason a large central toe (the hoof) would be a more favorable variation for horses?
  5. What environmental factors may have changed to allow some horse ancestors to become larger?

1. After watching the you tube video:

What variation in traits have **humans selected** for in modern horses?

1. What is Selective or Artificial Breeding? Please explain.