Earth and Life History Name:
Archaeopteryx Lab Period:

Evolution is the theory that living things have changed over time. These changes are a result of lots of different things happening to populations that cause only certain members to stay alive long enough to reproduce and pass on their traits to their offspring.

A major part of the theory of evolution is that all living things can eventually be traced back to a common ancestor. So, scientists are always trying to figure out how different plants and animals are related to each other. Think of it like going to a huge family reunion, and trying to understand how you are related to everybody there, as well as all of their grandparents, great-grandparents, and so on.

One way to figure out evolutionary relationships is to look at animals or plants and try to spot similarities and differences. This can be in their size, physical appearance, bone structure, or DNA. Both living things and fossils can be used for this. You will be studying a very famous set of similarities in this lab by comparing the bones of a chicken, a dinosaur, and an intriguing extinct animal known as *Archaeopteryx*.

The animal *Archaeopteryx* is widely considered to be the first evidence scientists have of an animal with feathers that could fly or glide through the air. Since the discovery of the first *Archaeopteryx* fossil in 1861, scientists have tried to figure out what sort of animals were its ancestors and descendants. Was *Archaeopteryx* a "missing link" between dinosaurs and birds? Was it a dinosaur? Was it a bird?

Step 1—Collect your information:

- skeletons (*Archaeopteryx, Gallus domesticus, Compsagnathus*)
- Skeleton Venn diagrams
- *Archaeopteryx* reconstruction
- Dinos in the Air? movie notes

Step 2—Analyze the information you have collected:

Look over your information and use it to answer questions on the next page. Take some time to examine all of your materials to find strong evidence to support your theories. Do not just rely upon your memory of what we have studied! To earn a good grade, you need to provide solid evidence to back up your ideas.

Step 3—Organize your information to turn it in.

Put your papers in the following order, then staple them together:

first page—this sheet
second page—*Archaeopteryx* skeleton
third page—*Gallus domesticus* skeleton
fourth page—*Compsagnathus* skeleton
fifth page—skeleton Venn diagrams
sixth page—*Archaeopteryx* reconstruction
seventh page—Dinos in the Air? movie notes
eighth page—answers to Question #1 and Question #2

Earth and Life History Name:
Archaeopteryx Lab Period:

Question #1—Do you believe that *Archaeopteryx* was a bird or a dinosaur? Why?

I think *Archaeopteryx* was a _____ for several reasons.

First, ...

Next, ...

Finally, ...

The evidence described above supports my theory that *Archaeopteryx* was a _____ .

Question #2—How do you believe that *Archaeopteryx* moved? Why?

I think the way *Archaeopteryx* moved around was by...

Some evidence that supports this is ...

Another reason it probably moved like this was because ...

The most convincing argument for this type of movement is ...

The evidence described above supports my theory that *Archaeopteryx* moved by ...