

Vertebrates and invertebrates worksheet essay sample

[Science](#), [Biology](#)



PART 1: Compare vertebrates and invertebrates.

Directions: In the graphic below, compare vertebrates and invertebrates by:

Create a list of 5 characteristics that make vertebrate and invertebrates

different Create a list of 5 characteristics that make vertebrate and

invertebrates similar

differences

similarities

The notochord in vertebrates became a spine.

All at one time had a notochord.

Invertebrates have no spine, just a notochord which is a rod like body that is flexible and formed of cells derived from the mesoderm. Both can reproduce

Some invertebrates have nothing supporting a structure and are completely gelatinous in shape. Both are animals or in many differing phyla

Vertebrates have 2 pair of appendages for moving while invertebrates have many pairs or no appendages Both are multicellular

Vertebrates are usually bilaterally symmetrical while invertebrates can be both bilateral symmetrical or radial symmetrical Both are living organisms that grow

PART TWO: Answer each of the following questions in 350-525 words.

1. Your text offers evidence of evolution including: the fossil record, biogeography, comparative anatomy, comparative embryology, and molecular biology. In your opinion, which of these provides the strongest evidence for evolution? Which provides the weakest argument for evolution?

Fossil records are etched in stone and prove that all life began somewhere and shows a timeline of the origin of new physical features. From fossil records you can gather when a species occurred, how they looked, what they ate, where they lived and many other forms of data which can not otherwise be gathered. I believe that this is the best way to provide evidence for evolution because it is basically documentation in stone and nothing beats documentation. The other methods which are biogeography, comparative anatomy, comparative embryology, and molecular biology can be considered as inferences or guess work. Biogeography is guess work because it uses predictive methods to gauge why species occurred throughout the world, there is no definite evidence.

Comparative anatomy can be misleading because there are many animals that are similar but never shared a common ancestor and do not share other characteristics. Such as the Apes and the Homo Sapiens, there is now proof that the Homo Sapiens never evolved from apes or any other being, they were as they were made and have continued to be the same through millions of years. Comparative embryology does not strike me as very useful because at one time all mammals looked the very same and possibly weighed the very same but it is obvious that elephants did not evolve into humans even though their embryos may look the same.

Molecular biology is my favorite of these because it gets to the very basics of all life form by going directly to its chemical beginnings and causes. Even though it deals with life at its very foundation does not mean that it is effective in offering explanations about evolution. In some ways all life on

Earth is composed of the same chemicals because there is a certain amount of chemicals needed in order to be a life that can be sustained upon Earth. These chemicals can be shared by a broad spectrum of beings and this does not mean that all of the beings evolved from the very same point even though they are made up of the very same molecules.

2. Identify a plant or animal species in your neighborhood. How is it perfectly adapted to its environment? What would happen if you transplanted your species to a different environment?

I want to focus on the common family pet, the canine or dog. Dogs are perfectly adapted to their environments because they are familiar with the comings and goings of humans and our machines and our foods and many other things. Dogs are smart enough and familiar enough with cars to know that when one is traveling at high speeds towards them they get out of the way. They are familiar with vacuum cleaners and sometimes ride on them because its fun to be moved without walking, I assume. They are familiar with phones and some love to hear their owners voices on answering machines when they miss them. Dogs are social creatures and like the pats and hugs they get from children and others. Dogs often are accepting of their owners handling their young sometimes when they are days old. They no longer hunt for their meals and are fine scavenging or being given meals. If dogs where not domesticated and were transplanted to a different environment like the woods they would have to hunt for food.

They would be more afraid of cars and would probably be afraid to venture too close to them. Dogs would not be as social with humans as they are and would probably attack anyone that came near their young in a defensive way because they would not have knowledge of gentleness and kindness from humans and they would not want any other species that can do them harm touching their young. The dogs would live in packs to keep things easier for them and would operate similar to their cousins the wolves. If they were still the pampered animals that we cater to during this transplant a few would surely not survive a few nights let alone a few years. They would probably eat something that turned out to be toxic or they would get hurt by some other animal that they had no clue lived in the woods. They would be more terrified than anything else and not truly know how to forage for food. I really could not see a domesticated dog living successfully in the woods, they have grown very dependant upon humans.