

LC: Can I understand that adaptations are mutations? Can I identify adaptive traits?

After watching the video about the woolly bear caterpillar, answer the questions below.

1) Look at this picture of a house moth caterpillar:



This caterpillar can be found in houses in the northern hemisphere. It likes to live in warm places, such as in wardrobes among clothes. It does have hairs on its body, but needs to find warmer places before it can transform into its adult form: the house moth.

GIVE 2 WAYS THAT THE WOOLLY BEAR CATERPILLAR IS ADAPTED DIFFERENTLY TO THE HOUSE MOTH CATERPILLAR. EXPLAIN YOUR ANSWER FULLY.

2) Woolly bear caterpillars only live in the Arctic. What changes for the woolly bear caterpillar must have occurred over thousands (if not millions) of years since the very first species of caterpillar ever emerged on Earth? What do you think caused these changes and why?

3)

Evolution of Birds

Birds are thought to have evolved from a group of bipedal dinosaurs called theropods. The ancestor of birds was probably similar to the theropod called *Deinonychus*, which is represented by the sketch in **Figure below**. Fossils of *Deinonychus* were first identified in the 1960s. This was an extremely important discovery. It finally convinced most scientists that birds had descended from dinosaurs, which had been debated for almost a century.



Study the two diagrams below. In what ways has the common HOUSE SPARROW (below) evolved from its ancestors?

Explain your thoughts **about each adaptation** and how it is an advantage for the house sparrow – think about feeding, evading predators and habitat.



4) Mutations are essentially ‘changes’ within a species of animal. For example, a mutation that occurred from a donkey to a horse over time was that horses were able to run faster because of their longer legs. This was probably because of the need to escape predators quicker and in more modern times (ie the last 5,000 years or so!) because of human breeding horses in particular ways.



Dromedary Camel

Bactrian Camel

The camel on the right is adapted better to live in harsher conditions, such as in the Gobi Desert, where temperatures can reach 45 degrees during the day, and -30 over night! Find out about the camels’ mutations and how the Bactrian Camel is better suited to tougher environments than the Dromedary.